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MINISTRY OF FOOD

Hygiene in Catering Establishments

REPORT
OF THE CATERING TRADE
WORKING PARTY

LONDON : HIS MAJESTY'S STATIONERY OFFICE
1951

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REPORT
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WORKING PARTY

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1951

THE CATERING TRADE WORKING PARTY

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Secretary

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TERMS OF REFERENCE

The Catering Trade Working Party was appointed by the Minister of Food in November, 1948, to make recommendations to the Ministers of Food and Health and the Secretary of State for Scotland as to the precautions considered practicable and desirable with a view to securing the observance of sanitary and cleanly conditions in the catering trade.

PROCEDURE AND APPRECIATIONS

The Working Party first met on 26th November, 1948, and sat on thirty-three occasions. The final meeting was held on 18th October, 1950.

Evidence was taken from catering trade associations, from associations of local authorities and of officers of local authorities, from women's organisations and from individual bacteriologists. The representative nature of the evidence is indicated by Appendix I.

The Working Party had the advantage of the considered views of a committee on detergents which sat under the chairmanship of the Chief Pharmacist of the Ministry of Health.

Groups of members paid visits to catering establishments of different types, to manufacturers of catering equipment and to the Hotel and Catering Exhibition at Olympia.

The Working Party wishes to place on record its appreciation of the courtesy and co-operation of all its witnesses and of the managements and staffs of the catering establishments visited.

The estimated cost of the preparation of this report is £1,566 16s. 3d., of which £129 represents the estimated cost of the printing and publishing of this report.

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REPORT OF THE CATERING TRADE WORKING PARTY

To :

THE RIGHT HONOURABLE MAURICE WEBB, M.P., Minister of Food,
THE RIGHT HONOURABLE ANEURIN BEVAN, M.P., Minister of Health, and
THE RIGHT HONOURABLE HECTOR MCNEIL, M.P., Secretary of State for
Scotland.

Part I. The Present Position

The Catering Industry

1. For the purposes of this Report we regarded the catering industry as covering the provision of meals or refreshments in establishments of a residential or institutional nature and in places of work or recreation as well as in establishments carried on by way of trade or business. We were advised that the fish frying trade would be examined elsewhere and we have therefore given it no special consideration. The trade devoted to the manufacture of food is outside our province although we have had occasion to mention it.

The Size of the Catering Industry

2. Information given to us by the Ministry of Food indicates that there are some 236,000 catering establishments exclusive of the many public houses and of numerous small boarding houses to which no rationed food is supplied for the purposes of the business.

3. Of the 236,000 about 114,500 are open to the general public, who every week consume in them nearly 39 million substantial meals. Industrial canteens and staff dining rooms number about 42,500 and provide some 24 million substantial meals each week. Establishments of the institutional type and day and nursery schools together number about 36,500 and serve weekly nearly 40 million meals of a substantial character, bringing the total of such meals to 103 million a week. The remaining establishments are associated with recreational or social activities and relatively few meals are provided.

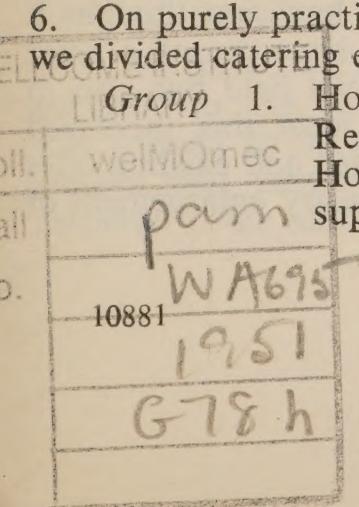
4. Over the whole range of establishments there is a weekly consumption of light meals or snacks in the neighbourhood of 171 million, while the provision of hot beverages alone reaches the considerable figure of 311 million.

The Diversity of the Catering Industry

5. Any review of the catering industry must necessarily take account of its great diversity. It caters for differing needs and tastes and its establishments range from the restaurants of international repute to the simple provision made by a cottager for the refreshment of the passing visitor. We recognised therefore that the prescription of uniform measures to secure sanitary and cleanly conditions would be unrealistic and that it was desirable to classify catering establishments in such a way as would enable us to determine broad distinctions as to what precautions against the infection of food were reasonable and practicable.

6. On purely practical grounds and to simplify consideration of our problems we divided catering establishments into the following eleven groups:—

Group 1. Hotels, Boarding Houses, Guest Houses, Residential Clubs, Residential Institutions, Hostels, Holiday Camps and Holiday Centres. This group includes establishments which supply meals to the outside public as well as to residents.



Group 2. Small establishments of the types included in Group 1 but letting less than four rooms and feeding residents only.

Group 3. Restaurants and Cafes, without any accommodation for residents, serving meals to non-residents only. These include Civic Restaurants, Services Canteens, Voluntary Service Canteens, Milk Bars, Snack Bars, Road Transport Cafes and Central Kitchens from which outside catering is conducted. Non-residential Clubs, Sport and Exhibition Ground Buffets are included in this group if they do not fall into Group 4.

Group 4. Non-residential Clubs, Sport and Exhibition Ground Buffets which employ no permanent catering staff and serve mainly teas.

Group 5. Industrial and Staff Canteens.

Group 6. Canteens serving school meals, either from a separate service kitchen or from a kitchen attached to the school.

Group 7. Public Houses and Registered Clubs supplying meals prepared on the premises.

Group 8. Public Houses and Registered Clubs not included in Group 7.

Group 9. Catering establishments as part of the Transport System whether on rail, sea, or inland waterway, or in connection with air transport.

Group 10. Premises serving light refreshments giving a small additional income to the occupier.

Group 11. Small moveable eating places. These include mobile vans, coffee stalls, marquees and the like.

7. No sharp distinction can be made between some of the groups but they are distinguished from each other because different hygienic requirements can arise. These are indicated in the following paragraph and, as appropriate, are dealt with in more detail in paragraphs 44 to 47 and 51 to 61.

8. Establishments in Group 2 are essentially of the same type as those in Group 1, but the two groups are separated on the basis of their size and accommodation. The establishments in Group 4 are similarly distinguishable from the corresponding establishments in Group 3 and on the ground that they usually employ no regular staff. Establishments in Groups 5, 6 and 9 render special services and carry exceptional responsibilities. The public houses and clubs of Groups 7 and 8 are faced with the common problem of glass cleansing but are separated to draw attention to the essential fact that where meals are served the hygienic conditions of their preparation are a material consideration. A detailed description of establishments in Group 10 is impracticable but this group represents a class of premises which in many cases are private homes. The places in Group 11 obviously call for special examination.

The Health Problems of Catering

9. Community feeding offers many possibilities for the transmission of infection to man and in recent years cases of sickness arising from infections have attracted considerable notice. Various factors, which we have not thought it necessary to specify but which are due partly to the War, have caused a great extension of community feeding not only in the commercial field but also in schools, civic restaurants and industrial canteens. To meet this increased demand many new catering establishments have been opened and existing ones have expanded their businesses with or without any necessary enlargement of

premises and often without due consideration of hygienic requirements. Coincident with this increase in the number and in the volume of business of catering establishments there has been a shortage of experienced staff. As a result caterers have had to employ staff without experience in the catering industry. Essential materials and equipment for the practice of hygienic methods in catering have been limited and not readily obtainable. This has eased but is still a retarding factor.

10. It is perhaps true that the nature of the services rendered by the caterer involving periods of high pressure at rush hours militates against the attainment of high hygienic standards but there is undoubtedly failure of some managements to recognise and to meet the need for training all food handlers in food hygiene.

11. Any estimation of the extent to which illness is caused by food infections must take into consideration the fact that such illnesses fall into several groups two of which are of primary importance. One group is the enteric infections i.e. typhoid fever, paratyphoid fever and dysentery due to infection of food with the bacteria responsible for these diseases. These are true infections, giving rise to illness of some duration and rarely with an abrupt onset. The second group is the one to which the term "acute food poisoning", or simply "food poisoning", is applied. The common varieties have an abrupt onset and a duration restricted to a few days, or even to hours, and give a clinical picture for which the term "poisoning" is appropriate, although the group includes some cases of definite infections. The three main types of such food poisonings are those due to organisms of the salmonella group, to a toxin produced by certain staphylococci and to poisoning from harmful chemical substances such as alkaloids, zinc, lead, arsenic, etc. Botulism is always included in this second group although its symptoms are quite distinct from ordinary food poisoning; its duration may be considerable and the onset usually is not abrupt.

12. Unfortunately there are no data which show directly the extent to which food consumed in catering establishments has caused illness of the above types. In the Food and Drugs Act, 1938, "food poisoning" is not defined and the obligation upon a doctor to notify the Medical Officer of Health simply refers to a patient suffering or suspected to be suffering from food poisoning. The numbers of outbreaks of food poisoning reported annually to the Ministry of Health during the years immediately before the war, and since 1941 to the Public Health Laboratory Service—which do not include cases of enteric infection—have shown a steady increase. It is probable that from the end of 1939 when the Emergency Public Health Laboratory Service came into operation the number of incidents recorded increased as the service expanded. In addition, there has been a significant increase in communal feeding, affording extra risks from food prepared in bulk. It should not be overlooked also that section 17 of the Food and Drugs Act, 1938, which came into operation on 1st October, 1939, places the duty on a registered medical practitioner of notifying the Medical Officer of Health if he becomes aware or suspects that a patient of his is suffering from food poisoning. Apart from these official notifications there is evidence that a number of outbreaks of cases of food poisoning still occur which are never reported, including some from catering establishments.

13. We have had before us a list of 20 outbreaks fully investigated, which occurred in this country between 1942 and 1948 in all of which infection was proved to be associated with communal feeding. It is reasonable to believe that part of the increase in reported outbreaks is a result of an increase in the amount of infection thus conveyed, but the proportion which

can be assigned to infection acquired from food consumed in catering establishments, commercial and non-commercial, must necessarily be conjectural.

14. The number of infections is clearly very small in relation to the number of meals consumed in catering establishments.* But evidence placed before us and our own observations have shown that while the conditions in many catering establishments are good, or at least satisfactory, there is also a considerable number of establishments in which unhygienic practices are only too common. Examples of such practices are given in paragraph 17. All these are potential sources of infection and their continuance constitutes a definite health hazard. Of importance also is the lack of control in catering establishments over possible human carriers of the more chronic types of infection such as of typhoid fever and paratyphoid fever and of the organisms responsible for the outbreaks of acute food poisoning.

Existing Conditions in Catering Establishments

15. A number of witnesses representing various associations, and particularly those from the Society of Medical Officers of Health, the Sanitary Inspectors Association and the Sanitary Inspectors' Association of Scotland, have placed before us details of structural and other defects commonly found in catering establishments and have laid stress upon unsatisfactory conditions associated with certain types of premises.

16. We set out below some of the conditions which are inimical to sound hygienic practices.

- (1) *The premises generally.* In converted premises inadequacy of space and inconvenient arrangements are common and make satisfactory methods difficult to practise. Underground kitchens are still to be found in considerable numbers and present special difficulties. A disproportion between the numbers catered for and the size of the working premises is a defect often met with in the successful catering establishment where the dining rooms are enlarged with no extension of the kitchen space.
- (2) *Specific defects of premises.* Examples of bad floors, dirty walls, inadequate ventilation and lighting and other defects can readily be cited by every experienced observer.
- (3) *Inadequate provision for the practice of hygienic methods.* Inadequate sanitary accommodation for the staff, poor facilities for hand washing and utensil cleansing, and an insufficient supply of hot water all represent failure to do what is necessary to inspire the staff to regard cleanliness as important. In many cases satisfactory provision could be made but is not because the need for it is unrecognised.

17. Knowledge of possible risks from unhygienic methods is undoubtedly growing but the practice of sound methods leaves much to be desired. Examples of bad practices are:—

Absence of supervision and control over possibly infectious conditions amongst the staff.

The slow cooling of heated meat foods.

* For example, the Medical Officer of Health for the City of Westminster, in his Annual Report for the year 1948, stated that "there are 3,000 catering establishments in Westminster serving over 360,000,000 meals per year" but that, "during 1948, only 106 cases of alleged food poisoning had to be investigated."

Neglect of personal cleanliness, especially of washing the hands after use of the sanitary convenience.

The preparation of food the day before consumption and failure to store it at sufficiently low temperatures.

Failure to protect food from vermin.

Unnecessary handling of food.

Failure to cover food on display.

18. It is clear that there is much effort to deal with defects of premises and of methods but it is undoubtedly true that to a considerable extent the need for improvement in methods remains either unrecognised or unappreciated. It is therefore necessary to inspire intensive educational activity and to establish standards to which every caterer should subscribe.

19. It is essential that anyone handling or preparing food shall wash his hands, not only before starting work and after visiting the sanitary convenience, but on every occasion that he happens to touch with his hands anything unconnected with the work he is doing. The careful and regular washing of hands so as to avoid any possible infection of the food from the hands will markedly reduce the risk of spreading food infections.

THE LAW CONCERNING HYGIENE IN CATERING ESTABLISHMENTS

The Food and Drugs Act, 1938

20. Section 13 of the Food and Drugs Act, 1938, lays down the hygienic conditions to be observed in relation to every room in which any food intended for human consumption, other than milk, is prepared for sale or sold, or offered or exposed for sale, or deposited for the purpose of sale or of preparation for sale. There is no comparable Scottish legislation except in so far as the provisions of this section have been incorporated in local Acts.

21. Section 15 authorises local authorities in England and Wales to make byelaws for securing the observance of sanitary and cleanly conditions and practices in connection with the handling, wrapping and delivery of food sold or intended for sale for human consumption, and in connection with the sale or exposure for sale in the open air of food intended for human consumption. Model byelaws have been issued and have been very widely adopted. In Scotland some local Acts provide powers similar to those conferred on local authorities in England and Wales by this section.

22. Section 14 deals with the registration of premises used for specified purposes and is of very limited application to the catering industry. This section does not apply to Scotland.

23. Under sections 8 and 30 there are powers, operative in Scotland as well as in England and Wales, to make regulations for the purpose of authorising measures to be taken for the prevention of danger to health from the importation, preparation, transport, storage, exposure for sale, and delivery of food of various kinds, other than milk, intended for sale or sold for human consumption. Milk and Dairies Regulations have been made in England and Wales under section 20 of the Food and Drugs Act and in Scotland under sections 7 and 12 of the Milk and Dairies (Scotland) Act, 1914. Section 9 of the Food and Drugs Act makes it an offence for any person to sell, or offer or expose for sale, to hold for the purpose of sale or of preparation for sale, or to deposit with or consign to any person for the purpose of sale or preparation for sale, any food intended for, but unfit for, human consumption.

24. The above statement covers those provisions of the Food and Drugs Act, 1938, with which, in the light of our terms of reference, we are mainly concerned, but there are other sections of the Act which deal with the composition and quality of food offered for sale for human consumption.

The Public Health (Infectious Diseases) Regulations, 1927 and the Infectious Diseases (London) Regulations, 1927

25. So far as they are relevant to this Report these regulations broadly provide that a Medical Officer of Health, on becoming aware by notification or otherwise of a case of enteric fever or dysentery shall, if he thinks it necessary in order to prevent spread of infection, notify the local authority who may require until further notice that the person specified shall discontinue any occupation connected with the preparation or handling of food or drink for human consumption.

26. Further, if a Medical Officer of Health has grounds for suspecting that any person employed in the preparation or handling of food is a carrier of enteric fever or dysentery infection, he may report to the local authority who may require a medical examination of the person. If from the result of any such examination, or from bacteriological or protozoological examination of material obtained in any such examination, or from any other evidence which he may deem sufficient for the purpose the Medical Officer of Health considers that there is sufficient evidence, the local authority may for a specified period prohibit the person from employment in any trade or business concerned with the preparation or handling of food and drink for human consumption.

27. The regulations apply the compensation provisions of the Public Health Acts in respect of damage sustained by reason of action under the regulations on any matter in which the person concerned is not himself in default.

28. The corresponding provision in Scotland is found in the Public Health (Scotland) Act, 1897, section 58, as amended by the Public Health (Scotland) Amendment Act, 1907, and in the Public Health (Infectious Diseases) Regulations (Scotland), 1932. Section 58 of the Act provides that no person suffering from an infectious disease or who is living in an infected house shall (a) without proper precaution against spreading such disease or infection, milk any animal, or pick fruit, or engage in any occupation connected with food, or shall (b) carry on any trade or business in such a manner as to be likely to spread such disease or infection. The regulations apply the provisions of section 58 of the Act to carriers of an infectious disease in like manner as they apply to persons suffering from that infectious disease. A person is deemed to be a carrier only if he has been certified by the Medical Officer of Health and also by one other medical practitioner to be such and to be a danger to others by reason of the probability of his spreading infectious disease. Special disqualifications can be imposed on persons suffering from enteric fever or dysentery.

The Shops Act, 1950

29. There are important provisions in section 38 of the Shops Act, 1950 which apply generally to catering establishments open to the public.

The Prevention of Damage by Pests Act, 1949

30. The Prevention of Damage by Pests Act, 1949 requires local authorities to take all necessary steps to secure that their districts are kept free from rats and mice and empowers the appropriate Minister to give directions to persons engaged in food businesses for the purpose of preventing or mitigating damage to food by pests.

Part II. Measures to improve Existing Conditions

GENERAL OBJECTIVES

31. In making our recommendations we have throughout kept two important principles in mind. One is that the requirements which might be laid down are not all of equal importance, some being of less public health significance than others. The other is that catering establishments are so varied in their nature that some differences in requirements are necessary.

32. Obviously the basic health requirement is to prevent food (including drink) eaten on or sold from the premises being a source of infection to the consumer. This goes far beyond a problem of clean food (for the cleanest food may be infected by a person carrying pathogenic bacteria), and introduces the factor of *safety* which includes cleanliness but goes beyond it.

33. Four risks have to be guarded against:—

- (a) the introduction into the catering establishment of food already infected ;
- (b) the infection of the food in the catering establishment from a member of the staff or a customer who is carrying pathogenic bacteria ;
- (c) the contamination of the food from infected animals including rodents and flies ;
- (d) the keeping of food under improper conditions so that gross multiplication of bacteria, originally present in small numbers, occurs.

Of these four risks the first is not directly our concern but we make certain observations later in this Report (paragraph 79). The second is a most important and well established source of illness, and we have considered a special aspect in paragraph 34. The third risk is of less importance but cannot be neglected. The fourth risk is often overlooked but is of primary importance because the danger to public health arising from the first three risks is greatly increased if the conditions under which the food is kept after infection allow heavy multiplication of pathogenic organisms. This factor of multiplication is outstandingly important. Food infected with small numbers only of food poisoning organisms such as staphylococci, or even members of the salmonella group, may be harmless if eaten soon after preparation but it will become highly infective or toxic if the organisms are allowed to multiply by keeping the food warm for a number of hours. Both adequate care of food on the premises and high standards of cleanliness, particularly of personnel, are essential factors in preventing infection.

34. Included under (b) in paragraph 33 is the possibility of infection through the agency of utensils. Bacteria can survive on cutlery, crockery, glassware, kitchen utensils and food containers. Such articles can be infected by dangerous organisms from the mouth or hands of infected persons or by infected food ; and washing-up, as generally practised, is seldom sufficient to make them safe. It is therefore important, particularly in catering establishments where the risk of infection is greater than in private houses, that utensils should be subjected to some form of sterilization.* Such "commercial sterilization" can be provided by a washing machine efficiently operated, by immersion in water at a temperature of about 170°F, by steaming in a suitable container, or by the use of a chemical—which may or may not be combined with a detergent—to assist cleansing. (Chemical sterilization is considered later on in this Report—paragraph 57.) Considerable attention is accordingly given in our recommendations to methods aimed at rendering utensils safe from the risk of transmitting infection.

* The word "sterilization" throughout this Report is not used in the strict bacteriological sense of complete freedom from all living bacteria and spores, but as meaning freedom from harmful bacteria in an active form.

REGISTRATION OF CATERING ESTABLISHMENTS

35. Representatives of associations of local authorities and of their officers who gave evidence before us stressed the necessity for the registration of catering establishments. This view is not shared by representatives of the catering industry who, as a whole, are opposed to registration. Some members of the Working Party support the view of the industry but, after very careful consideration and subject to what is said in paragraph 36 and in Part B of Appendix II, they accept the conclusion that registration of the premises of catering establishments by the local authority is an essential administrative pre-requisite of any real effort to improve hygienic conditions.

36. Differences arose as to the type of registration to recommend. Members experienced in matters of public health, technically and administratively, are of the opinion that an appropriate form of registration is that of section 14 of the Food and Drugs Act, 1938 (see Part C of Appendix II) under which registration is contingent upon a satisfactory report. If the local authority feels precluded from registering the premises the applicant is given an opportunity to state his case and thereafter has a right to appeal to a court of summary jurisdiction and also to a higher court. The view of other members is that if registration is to be insisted upon it should be "by right". This implies the possibility of registration without preliminary inspection. Only if subsequent investigation by the local authority discloses unsatisfactory conditions can steps be taken to cancel the registration, whereas the procedure of section 14 imposes some restraint upon the use of the premises.

37. In these circumstances we confine ourselves to a recommendation that the premises of all catering establishments should be registered by the local authority. All premises being used for the purpose on "the appointed day" should be deemed to be registered as soon as proper application is made to the local authority.

38. In view of the importance attached by the two parties to their respective views these are set out in Parts A and B of Appendix II to this Report.

CODES OF PRACTICE

39. We are of the opinion that considerable improvement in hygienic conditions in catering establishments can be achieved by the adoption of codes of practice and we have drawn up two such codes. The first of these, THE STANDARD CODE, is short and simple and contains essential requirements only. No structural requirement is included unless it has a direct bearing upon the prevention of infection. The second code, which we have called THE TARGET CODE, sets out what we consider to be necessary for securing that food served in catering establishments is prepared under the best practical conditions.

40. We suggest that the Standard Code should be administered as a code of safety requirements necessary for every catering establishment to which it applies. Failure to comply with any of its provisions would justify the local authority in taking appropriate action. Persistent disregard of its provisions must be held to endanger public health and in our view would justify the local authority in taking steps to revoke the registration of the establishment, if our recommendations as regards registration are accepted.

41. We recommend (a) that the local authority should send a copy of the Standard Code to the proprietor of each catering establishment on its register, unless the premises are exempt from complying with the Code, and

(b) that, so far as is legally practicable, sanction should be given to the provisions of the Code. The Code is set out below. We are aware that problems of compensation to workpeople may arise under item 2 and we hope that they will be sympathetically considered. (See also paragraph 68.)

42.

THE STANDARD CODE

1. Introduction. Food infections and food poisoning can be spread through food infected in catering establishments and many outbreaks occur in this way. Such risks can be markedly reduced if suitable precautions are taken. It is the duty of both management and staff to co-operate in all necessary and practicable steps to reduce food infection. The following procedures are designed to reduce the dangers of these infections.

2. Measures to limit the infection of food from food handlers*

- (a) No person who is suffering from a discharging wound, sores on hands or arms, discharging ears or who is suffering from attacks of diarrhoea or vomiting should take part in the handling, preparation, or serving of food in any catering establishment.
- (b) Members of the staff should report to the proprietor or manager if they are suffering from any of the conditions specified in (a) above, or from any other illness.
- (c) The proprietor (or manager) of a catering establishment should take reasonable steps to become aware of the existence amongst his staff of any of the conditions specified in (a) above or of any other illness.
- (d) The proprietor (or manager) of a catering establishment, as soon as he becomes aware that any member of his staff is suffering from any of the above-specified conditions, should not permit such person to handle food until he (or she) is no longer suffering from the condition in question, or permission has been given by the Medical Officer of Health.
- (e) In the case of the other illnesses, if there is a doubt whether the employee should continue to work, the employee should be referred to his (or her) doctor pending resumption of work.
- (f) Every applicant for employment should be informed of the possible risk from previous attacks of typhoid fever or paratyphoid fever and should be asked if he (or she) has previously suffered from one of these diseases. If he (or she) has so suffered, particulars should be reported to the Medical Officer of Health and the applicant not engaged until approval has been given by the Medical Officer of Health.

3. Minimum hygienic requirements

- (a) Working premises must be kept clean. The cleanliness of a catering establishment calls for continuous and careful supervision with special regard to the nature of the business and of the premises. Among other things the floors must be swept daily, using damping agents; the walls and other surfaces must be kept free from dust; cupboards, drawers and other fixtures must be kept scrupulously clean and free from anything not used in food preparation. The floors of food preparation rooms should be washed as frequently as necessary and at least daily.
- (b) The premises must be adequately lit.
- (c) Abundant supplies of water, both hot and cold, must be available.
- (d) Nothing shall be stored in rooms used for food preparation not directly concerned with the food work of the establishment.

* See paragraph 43 (1).

(e) Accessible sanitary conveniences and wash basins (sinks not being satisfactory substitutes for wash basins) must be provided for the use of the staff, the wash basins to be well lit and provided with an adequate supply of both hot and cold water. An adequate supply of towels and soap must also be provided. The wash basins must be within the convenience or in the immediate vicinity. A notice pointing out the importance of washing hands after use of the sanitary convenience must be displayed in a prominent place in every convenience.

Notes: The number of both wash basins and sanitary conveniences required will vary with the number and sex of the staff.

The provision of nailbrushes is desirable. Towels in communal use may carry infection and are therefore undesirable.

4. Cleansing and sterilization of utensils

(a) *Cleansing.* Adequate equipment for cleansing utensils must be provided. Where a dish washing machine is installed, it must be efficient and efficiently operated, and in particular must provide for the thorough cleansing of utensils and for a subsequent rinse in clean water at such a temperature as will obviate the necessity for cloth drying. If no dish washing machine is used, there must be at least two sinks with hot and cold water laid on to each sink. The first sink must be reserved for utensil cleansing and the second sink for utensil rinsing. The water in the second sink must be kept clean and hot enough to obviate the necessity for cloth drying. Special consideration must be given to the cleansing of all equipment used in the cooking and conveying of meals in bulk.

(b) *Sterilization.** It is desirable† that the arrangements for cleansing should provide also for sterilization, but this may not be practicable in all cases. Sterilization can be secured either by maintaining the temperature of the final rinse water at 170° F. or by steaming the utensils in a steam chest or large container, which can often be achieved, on the small scale, in an inexpensive way.

5. Care of food on the premises

(a) Suitable receptacles must be provided for all food.

(b) A refrigerator, cold room or ice box, of size adequate for the establishment must be provided.

(c) Perishable food must be kept in a larder or in the refrigerator, cold room or ice box, whichever is suitable, until required for use.

(d) So far as practicable all food preparation and cooking must be arranged to allow for a minimum interval before the food is consumed. When this is not practicable, any prepared or partially prepared food must be stored in the refrigerator, cold room or ice box immediately after preparation, or after rapid preliminary cooling of hot food, and not removed until required to complete preparation. So far as practicable, left-over food should not be used again but, if it is to be used, it must be stored promptly in the refrigerator, cold room or ice box.

(e) All foods used for display, apart from those exposed for immediate sale, must be protected by suitable wrappings or covers.

6. Rodent and insect infection

Occupiers of catering establishments must take all practicable steps to prevent or to get rid of infestation and to prevent contamination of food from rats, mice, flies and other vermin. Covered receptacles of impervious material for refuse, food scraps and the like must be provided.

* The word "sterilization" throughout the Code is not used in the strict bacteriological sense of complete freedom from all living bacteria and spores, but as meaning freedom from all harmful bacteria in an active form.

† See paragraph 43 (2).

7. Hygienic practices in catering establishments

Adherence to this Code alone is not enough. It is of prime importance that all members of the staff (management and workers) should be imbued with and continually practise the principles of sound personal hygiene and should take full advantage of any suitable courses of instruction which are available.

Note : In all the matters dealt with in this Code, the local authority should be consulted freely.

Reservations to Items in the Standard Code

43. (1) *Item 2.* By Dr. E. L. Sturdee, Mr. P. N. R. Butcher, Dr. I. N. Sutherland and Dr. A. J. Shinnie:—

“It appears to us that item 2 goes beyond what is practicable. We are advised, however, that there is much evidence that outbreaks of food poisoning have been caused by persons suffering from diarrhoea or having infected sores or spots on the hands, arms or face, and persons with these conditions should not knowingly be employed in the handling or preparation of food. We consider that persons responsible for catering premises, if in doubt, should obtain the advice of the Medical Officer of Health whether an employee who is, or has been, in ill health can safely be allowed to work.”

(2) *Item 4.* Some members of the Working Party consider that in item 4 of the Standard Code exposure of utensils to a temperature of not below 170°F either by water or by steam should be a specified requirement, except for certain glassware and plastics which may not withstand the heat. Some other members feel that in the absence of direct proof, there is inadequate ground for the emphasis given to the sterilization of utensils.

APPLICATION OF THE STANDARD CODE

44. We recognise that establishments in the following categories cannot be expected to comply with the Standard Code as a whole and we recommend that exemption from the Code (to such extent as may be appropriate) should be granted to the establishments described in (a) to (e) below. In doing so we realise that, in the absence of precise definitions, the local authority will necessarily exercise discretion in deciding whether or not a particular establishment falls within an exempted class. In the case of the category defined at (e) we are of the opinion that the small establishment of the type of the mobile van or coffee stall should be subject to the code set out in paragraph 47.

- (a) Small establishments of the following types and letting less than four rooms and feeding residents only:—hotels, boarding houses, guest houses, residential clubs, residential institutions, hostels.
- (b) Sports and exhibition ground buffets which employ no special catering staff and serve mainly teas, including any ancillary preparation places.
- (c) Public houses and registered clubs not supplying meals prepared on the premises.
- (d) Premises serving only light refreshments as a small source of additional income to the occupier.
- (e) Small moveable eating places including marquees.

While we suggest that public houses and registered clubs not supplying meals prepared on the premises should be exempted from the full Standard Code we recommend that item 4 of the Code as provisionally relaxed in paragraph 45 of this Report should be legally applicable to the group.

45. Public Houses. We also recommend that for public houses and registered clubs serving meals prepared on the premises and therefore subject to the Standard Code, the use of a single tank for glass cleansing should be accepted as complying with the requirements of item 4 of the Code provided that the occupier satisfies the local authority that this method includes the properly controlled use of an efficient bactericidal detergent and sufficiently frequent changes of water in the tank, and that an adequate supply of clean cloths is provided if cloths are used. We regard this as a transitional measure to meet existing conditions. Our views as to the best procedure for glass cleansing in public houses are set out in paragraphs 57 to 61.

46. After the Code has been in operation for some time it may be found practicable to extend its full operation to some of the catering establishments now recommended for exclusion.

47. Mobile Vans and Coffee Stalls. (See also paragraph 56). We recommend the adoption of the following code for catering establishments of the mobile van and coffee stall type:—

1. The name and address of the person in whose name the establishment is registered shall be displayed conspicuously on the van or stall.
2. The van or stall shall be adequately lit.
3. The van or stall and its equipment shall be kept clean and in a proper state of repair. Cupboards, drawers and other fixtures shall be kept scrupulously clean and free from anything not necessary for the conduct of the business.
4. The internal walls and surfaces shall be kept clean and free from vermin.
5. All food shall be covered as far as practicable, or shall be efficiently screened.
6. A supply of wholesome water, both hot and cold, adequate for needs shall be available.
7. There shall be available a supply of clean towels and soap for the use of the person or persons operating the van or stall.
8. There shall be available adequate washing-up arrangements.

Note : It is desirable that the cleansing of crockery and other utensils should take place in two separate sinks or in a sink having two compartments, one of which should be reserved for utensil sterilization. Sterilization can be carried out either by water at a temperature of not less than 170°F or by steam or, as a temporary measure, by the efficient employment of a suitable bactericidal agent.

THE TARGET CODE

48. As a long-term policy it is desirable to set down comprehensive requirements applicable to most types of catering establishment and we have embodied these in the Target Code.* It includes requirements relating to—

- (a) the observance of high standards of cleanliness by management and staff, particularly in food preparation ;
- (b) the adaptation and arrangement of premises to secure that cleanliness and safety precautions can be practised without undue difficulty ;

* If legal sanction is given to the Standard Code set out in paragraph 42, some of the items in the Target Code will be obligatory.

- (c) the maintenance of a high standard of cleanliness of all utensils and equipment ;
- (d) the prevention of food becoming contaminated with harmful organisms by those who handle the food at any stage ;
- (e) the prevention of food contamination from domestic animals, and from rodent and insect pests ;
- (f) the prevention, by special precautions, of bacterial multiplication in food in the course of or after preparation.

49. The Code is called a Target Code because we consider that it is unrealistic to expect every requirement to be met by all existing catering establishments. For this reason we have refrained from making a recommendation as to an obligation to observe it. It is, however, important to set a target of attainment at which all establishments should aim.

50.

THE TARGET CODE

A. The Working Premises

1. The whole of the premises and fixtures should be so constructed and fitted that all parts of both premises and fixtures are capable of being readily cleansed.
2. Premises : The premises should be large enough for an orderly sequence of work without undue crossing of traffic lines.
3. Cooking Equipment : The cooking equipment should be so sited that wall areas adjacent thereto, and the equipment itself, are readily accessible for cleansing.
4. Floors : The floors should be free from cracks, without open joints, impervious, non-slip and capable of being easily washed down. They should slope evenly towards the drainage outlet.
5. Walls : The walls should be substantial, durable, smooth, impervious, washable and of a light colour.
6. Ceilings : The ceilings should be dust proof and free from cracks.
7. Repair : All premises should be maintained in sound repair and every precaution taken against infestation from vermin.
8. Drainage : Gullies outside and in close proximity should be trapped. All yards should have impervious and even surfaces and should be properly drained.
9. Water Supply : An adequate supply of wholesome water piped to taps over sinks, lavatory basins and other appropriate fixed receptacles should be provided.
10. Hot Water : Apparatus to provide hot water up to at least 170°F. for all requisite purposes should be installed.
11. Lighting : All parts of the premises used for food preparation should be adequately lit, preferably both by natural light and by artificial light.
12. Ventilation : Adequate ventilation should be provided. Where a system of artificial ventilation is not installed an adequate flow of fresh air should be maintained.
13. Cloakrooms : Clean and adequate cloakroom accommodation should be provided for the staff distinct from but preferably adjacent to the food preparation rooms.
14. Sanitary Conveniences : There should be a sufficient number of sanitary conveniences to meet the needs of the staff. Each convenience should have an adequate supply of toilet paper, and should be well lit, ventilated and kept clean.

15. **Washing Facilities:** There should be a sufficient number of wash basins in immediate proximity to the sanitary conveniences, and elsewhere as may be necessary to meet the needs of the staff. In addition a wash basin should be fixed in the kitchen itself, or immediately adjacent thereto. (Kitchen sinks should not be used for hand washing.) All wash basins should be well lit, with hot and cold water laid on, and should be kept clean. Soap, nailbrushes and towels (for non-common use) should be provided. (An efficient air dryer is a satisfactory substitute for towels.)

B. Equipment

1. Adequate and suitable covered receptacles of impervious material for refuse, food scraps and the like with a suitable and sufficient storage place for them should be provided outside all food preparation rooms.
2. There should be proper receptacles constructed of impervious material for all foods broken down from bulk. All except those for vegetables should have covers.
3. There should be a cool larder of adequate size for the storage of foods, particularly those of a perishable nature.
4. The surfaces of tables and benches should be impervious to liquids and without open cracks.
5. There should be separate and adequate storage for all utensils and, in particular, covered racks for crockery, trays for cutlery and suitable shelving for saucepans and small cooking vessels.
6. There should be a separate sink or sinks for vegetable preparation.
7. Ventilated hoods, or adequate alternative means for the removal of steam, fumes, intense heat from grillers, etc., should be provided wherever required.
8. Adequate equipment for cleansing and sterilizing utensils should be provided. Where a dish washing machine is installed it should be worked efficiently and provide for the thorough cleansing of utensils and for their sterilization.* For hand washing of utensils the minimal provision should be:—
 - (a) a sink or sinks (according to the size of the establishment) for the washing of utensils, with hot and cold water laid on ;
 - (b) a separate sink or sinks for sterilizing, each furnished with its own supply of water which can be kept at a temperature of not less than 170° F., by steam injection or otherwise, with automatic devices for recording temperature ; sterilization in a steam chest if adequately carried out may be accepted as an alternative. In a small establishment a two-compartment sink for washing and sterilizing respectively may be used instead of two separate sinks, provided that the necessary device is available for recording the temperature ; or sterilization can be effected by simple steaming in a suitable vessel ;
 - (c) metal racks with handles to hold utensils for immersion in the sterilizing sink.
9. There should be adequate shelves, hooks, or racks, to receive utensils for air drying.
10. There should be reserves of glass, crockery and cutlery to ensure—
 - (a) the prompt replacement of chipped, cracked or bent equipment ;
 - (b) that during rush hours there is no need to use inadequately sterilized equipment.
11. A sufficient supply of overalls of light colour, caps, "rubbers" and other personal equipment should be provided.

* The word "sterilization" throughout the Code is not used in the strict bacteriological sense of complete freedom from all living bacteria and spores, but as meaning freedom from harmful bacteria in an active form.

12. Where large containers are used for conveying meals (as in central kitchens for schools) a steam jet (or jets) should be provided with steam available under adequate pressure. The lids as well as the containers need to be sterilized. An adequate time of steaming is essential, and a clock with a large minute hand should be provided adjacent to the steam jet. Adequate sterilization in steam chests or in tanks containing boiling water may be accepted as a substitute in special cases.
13. There should be a reliable refrigerator or cold room of size adequate for the establishment provided with an easily visible means of recording the inside temperature. (A cold room is one which is capable of maintaining food at a temperature not above 40°F.)
14. Wrappings or covers or protective glass screens for food on display should be provided.
15. First-aid equipment should be available on the premises.

C. Management Requirements

1. The management should assign to a designated individual responsibility for checking the condition of all food delivered to the establishment and for taking action if it is considered unsatisfactory.
2. Perishable articles (milk, meat, etc.) should be kept in the larder adequately covered, or in the refrigerator or cold room, until required for use.
3. Manual handling of food should be avoided, so far as practicable.
4. Smoking while preparing or serving food should be prohibited.
5. Animals should be excluded from rooms where food is being prepared. At no time should animals have access to the food in the establishment.
6. Nothing should be stored on the premises which is not directly concerned with the work of the establishment.
7. All cooking vessels and other equipment should be maintained in a state of thorough cleanliness and repair and all smaller utensils (saucepans, etc.) kept in their proper places when not in use. Particular care should be taken to maintain the linings of copper cooking utensils in such condition as to prevent direct contact between foodstuffs and the copper.
8. Premises should be maintained at a high standard of cleanliness. This involves washing floors at least once a day, supplemented by sweeping, using damping agents, as often as may be necessary and cleaning all walls and other surfaces at least once a week. All cupboards, drawers and other fixtures should be kept scrupulously clean and free from all articles other than those for which they are intended.
9. A high standard of personal cleanliness on the part of the staff should be maintained. Overalls and other personal equipment should be washed and changed sufficiently frequently. Waiters should preferably wear washable jackets.
10. A notice pointing out the importance of washing the hands after use of the sanitary convenience should be kept affixed in a prominent place in every convenience.
11. So far as practicable all food preparation should be done the same day as the food is consumed. When this is not practicable all partially prepared food should be stored *immediately* after preparation in the refrigerator or cold room and not removed until required to complete final preparations. The only exception is that of a hot food of large bulk (such as a joint), which should be allowed to cool down in a clean place before being placed in the refrigerator or cold room. Rapid cooling of foods in bulk is so important that suitable methods to ensure it should be employed, such as division into smaller portions and cooling in a current of air provided by a fan.

12. So far as practicable, left-over food should not be used again but, if it is to be used, it should be stored promptly in the refrigerator or cold room.
13. Made-up and other prepared foods should always be stored in the refrigerator or cold room without delay after preparation. To keep them at room temperature is dangerous.
14. When food is stored in the refrigerator it should be placed so as to allow air circulation. Meat joints are preferably hung from hooks. The refrigerator should be kept clean and thoroughly cleaned out on the occasion of each defrosting.
15. Detergents used in connection with utensil cleansing should be suitable for the conditions existing, and should be used in correct strength. The local authority should be consulted as to the appropriate detergents to use.

16. *Vermin and Flies*

Rats and Mice: Infestation by rats and mice is dangerous as they can spread infection to man. All practicable steps should be taken to eliminate this source of infection. It is essential—

- (a) to maintain the premises in thorough repair and to stop all ascertainable means of rodent access ;
- (b) to ensure that all food scraps are promptly removed and the premises maintained at a high level of cleanliness ;
- (c) to provide impervious receptacles with tightly fitting covers for the storage of all foods attractive to rodents ;
- (d) to consult and seek the help of the local authority if rats or mice are found in substantial numbers.

Flies, Cockroaches and other Insects: The number of flies on the premises can be materially reduced by the rapid and efficient disposal of all food scraps and by using flyproof covers for food to the fullest possible extent. Manure or refuse piles or other materials serving for fly breeding near to the catering establishment should be reported to the local authority. The presence of cockroaches and other insects in numbers is often evidence of faulty fixing of plant and of inadequate hygienic practices. Thorough cleanliness and the provision of proper food containers are important preventive measures. The local authority should be consulted if the presence of these pests continues. When insecticides are used great care should be taken to prevent the contamination of food, equipment and utensils.*

17. Measures to limit the infection of food from food handlers.†

- (a) No person who is suffering from a discharging wound, sores on hands or arms, discharging ears or who is suffering from attacks of diarrhoea or vomiting should take part in the handling, preparation, or serving of food in any catering establishment.
- (b) Members of the staff should report to the proprietor or manager if they are suffering from any of the conditions specified in (a) above, or from any other illness.
- (c) The proprietor (or manager) of a catering establishment should take reasonable steps to become aware of the existence amongst his staff of any of the conditions specified in (a) above or of any other illness.
- (d) The proprietor (or manager) of a catering establishment, as soon as he becomes aware that any member of his staff is suffering from any of the above specified conditions, should not permit such person

* No recommendation is made in this Report on the detailed use of insecticides since no finality as to the best methods has yet been reached.

† See paragraph 43 (1).

to handle food until he (or she) is no longer suffering from the condition in question, or permission has been given by the Medical Officer of Health.

- (e) In the case of the other illnesses, if there is a doubt whether the employee should continue to work, the employee should be referred to his (or her) doctor pending resumption of work.
- (f) Every applicant for employment should be informed of the possible risk from previous attacks of typhoid fever or paratyphoid fever and should be asked if he (or she) has previously suffered from one of these diseases. If he (or she) has so suffered, particulars should be reported to the Medical Officer of Health and the applicant not engaged until approval has been given by the Medical Officer of Health.

18. Adherence to the hygienic requirements in this Code alone is not enough. It is of prime importance that all members of the staff (management and workers) should be imbued with and continually practise the principles of sound personal hygiene and that they should take full advantage of any suitable courses of instruction which are available.

CONSIDERATIONS AFFECTING CERTAIN TYPES OF CATERING ESTABLISHMENT

51. We desire to draw special attention to catering establishments of the following types where, for one reason or another, special care is necessary.

52. **Road Transport Cafes.** These cafes are often housed in temporary structures with quite inadequate kitchens and, being usually sited in rural areas, are also often deficient as regards water supply, drainage and as to means of maintaining a sufficient supply of hot water.

53. **Catering establishments on the railways and other transport undertakings.** There are clearly special hygienic problems, particularly of accommodation, associated with passenger transport, and a great deal of careful organisation is necessary to ensure that in all circumstances high standards of cleanliness in the handling of food are maintained. The hygienic conduct of any ancillary premises in which food may be partially prepared or partially cooked is of marked importance.

54. **Canteens serving school meals.** In this group certain special problems arise. One of the most important is that hot food often has to be conveyed from a central kitchen in heat-insulated containers. The sterilization of these containers is an important hygienic requirement and the procedure set out in the Target Code (item B. 12) should be adopted. Meals have to be served at much the same time over a number of scattered places and because of this the provision of refrigerators of ample capacity at central kitchens is essential to enable any food cooked the previous day to be stored at low temperatures.

The problems of the conveyance of hot food may also apply to some *industrial and staff canteens* with the same need for sterilization of containers and ample refrigeration space.

55. Wherever catering is conducted in conditions approaching that of a monopoly, that is to say where there is little or no competitive element, much depends upon full recognition by management and staff of the need to establish and to maintain hygienic conditions of a satisfactory nature. We do not suggest that special legal provisions are required for the control of these catering establishments or those of the types mentioned in paragraphs 52 to 54 but we consider that local authorities should have their attention drawn

to the necessity of regular and special inspections to ensure that satisfactory hygienic standards are maintained in all these places.

56. **Mobile Vans.** (See also paragraph 47.) The increasing use of mobile vans for the service of meals and refreshments has led us to consider what is of hygienic importance in their structure and equipment. We invite attention to the following specification of hygienic requirements which we consider should be regarded as indicating essential features of a modern van:—

1. The van should be constructed or lined with an easily-cleaned impervious material. Not less than three sides should be enclosed and a sufficient part should be translucent to give adequate lighting.
2. The floor should be so constructed as to be easily cleaned and there should be no sunken portions.
3. The van should carry a reasonable supply of wholesome water in a clean tank made of rustless material. For most vans twenty gallons would be a reasonable supply.
4. Satisfactory means should be provided to give an adequate supply of hot water (170° F. minimum).*
5. A two-compartment sink (or two separate sinks) should be provided for washing utensils, with drainage boards and discharge pipes and with hot and cold water taps over the sinks.
6. A suitable food store, protected from dust, should be provided.
7. All food displayed for sale should be efficiently screened from contamination, preferably by using glass display cabinets.
8. The top surfaces of all food preparation tables and counters should be covered with an easily cleaned impervious material.
9. There should be a covered receptacle within the vehicle for refuse and waste.
10. There should be an adequate supply of soap and towels.

In addition we consider that the daily cleansing of the vehicle and accessories should be the rule, and we recommend that light-coloured overalls should be worn by the operators.

Public Houses and other Licensed Premises—Glass Washing

57. The customary practice is for glasses to be washed by the barman or barmaid directly under the service counter in the intervals of serving customers. At rush times adequate cleansing is subject to the double handicap of shortage of glasses and of the time available to wash them and it must be seldom that sterilization of the glass is obtained. Satisfactory sterilization of glasses can be obtained by the use of a single tank containing unheated water and a selected quaternary detergent, the dosage of the detergent being in calculated amount. The drawbacks to this method are three:—

- (a) all chemical sterilization processes suffer from the defect that their reliability depends so much on their correct usage (including dosage, frequency of water changes and absence of residues on the utensils) that the satisfactory results obtained by a laboratory expert are not easily achieved by unskilled workers;
- (b) little is known of any ultimate effects which might result from the intake of residues of such detergents left on utensils;
- (c) this cleansing method invariably involves final cloth drying with re-contamination of the glass if the cloth is not perfectly clean.

* Means for obtaining hot water can be part of the equipment in the van. Alternatively, boiling water could be carried in vacuum pattern cylinders, provided that tests show that water at a temperature not below 170° F. is available throughout times of usage.

58. We consider that the ideal method is to separate glass washing from bar service and that this should be the ultimate aim, accepted in time as a matter of course. Such a procedure is in use in some of the larger premises in Carlisle and may well have been adopted elsewhere. An island is provided behind the bar where all glasses and other drinking utensils are washed after use either by the bar attendant or, at rush times, by staff specially engaged for washing-up duties.

59. Meanwhile, the two-sink procedure laid down in the Standard Code should be normal for all new installations. In most bars there is sufficient room, and hot water can be made available. With an adequate supply of glasses the washed glasses should cool before they are required for further use. Cloth drying should be unnecessary.

60. For places where two tanks would be difficult to install we suggest that, as a transitional measure, a single-tank detergent sterilization procedure might be accepted as complying with requirements if the users satisfy the local authority that it includes the properly controlled use of an efficient bactericidal detergent, sufficient changes of water in the tank and the adequate supply and use of clean dry cloths.

61. Washing machines for glasses are on the market and if they comply with the conditions set out in item 4 of the Standard Code we are of the opinion that they can be accepted as satisfactory.

REVISION OF EXISTING LEGAL PROVISIONS AFFECTING CATERING ESTABLISHMENTS

The Food and Drugs Act, 1938

62. In paragraphs 37 and 41 respectively we have recommended that statutory provision should be made for the registration of catering establishments by the local authority and for the enforcement, as far as practicable, of the Standard Code.

63. We recommend that:—

- (a) establishments of the mobile van and coffee stall types should be made subject to the requirements which we have proposed in paragraph 47 together with such requirements of section 13 of the 1938 Act as are relevant;
- (b) passenger carrying vessels in inland and coastal waters in which food is prepared for consumption by the passengers on board should, with any necessary modification, be made subject to provisions similar to those in section 13, and to the relevant provisions recommended in this Report for catering establishments ashore;
- (c) appropriate provision should be made to ensure that section 13 is enforceable in respect of establishments (not being private dwelling houses) where meals are supplied free (as may be the case in certain institutions) or where meals are supplied but where owing to some legal technicality no sale of food takes place (e.g. certain members' clubs).

64. We recommend that the law should be amended so as to require the provision of adequate lighting in places where food is prepared for sale.

65. We have been informed that there is doubt in the minds of some people responsible for the administration of the Food and Drugs Act whether paragraph (i) of section 13 (1) which reads—

“there shall be provided in, or within reasonable distance of, the room suitable washing basins and a sufficient supply of soap, clean towels, and clean water, both hot and cold, for the use of persons employed in the room”

can be held to require the provision of water, etc., for purposes other than personal cleanliness. We have been advised that the paragraph may be held to require that these facilities should be suitable and sufficient to enable persons employed in the room to comply with the requirements of the section both as regards personal cleanliness and cleanliness of the room and the apparatus and utensils used in it. The provision of hot and cold water is essential. We consider that the attention of local authorities should be drawn to this, and we recommend that at some appropriate time the paragraph should be amended so as to eliminate the possibility of any misinterpretation.

66. In other connections witnesses have emphasised the indefinite nature of some of the provisions of section 13. We appreciate the difficulties of making precise provisions and we have endeavoured in the Standard Code to go some way towards supplying what is required.

67. We have also been informed that occasions have arisen when the responsibility of the local authority to enforce the provisions of the Food and Drugs Act in relation to particular establishments has been challenged, and the right to inspect them has been disputed. Examples are school central kitchens, factory canteens, and establishments provided or controlled by the British Transport Commission, the National Coal Board, or some other body controlling a nationalised industry. We are strongly of the opinion that, so far as is constitutionally practicable, the same legal requirements, including the requirement that premises shall be registered with the local authority, should be enforceable in respect of all catering establishments by whatever body they have been provided or are operated, and that where this is not constitutionally practicable, the standards of hygiene maintained should not be lower than those enforceable in the case of other catering establishments. We consider in particular that Government Departments, hospital authorities and local authorities should ensure that catering establishments under their control should not only be above reproach but should serve as a model of good construction, good equipment, and good practice. We would urge that inspection of such establishments and any suggestions made for their improvement by officers of the local authority should be welcomed by the controlling department. So far as nationalised industries are concerned, we are advised that the bodies controlling these industries do not enjoy Crown immunity and that accordingly the provisions of the Act and of regulations and byelaws are enforceable in respect of catering establishments maintained and operated by them.

The Public Health (Infectious Diseases) Regulations, 1927. The Infectious Diseases (London) Regulations, 1927

68. We recommend that consideration should be given to the desirability of amending the above-mentioned regulations by extending their scope, so far as is practicable, so that the provisions relating to enteric diseases (typhoid fever, paratyphoid fever and dysentery) become applicable to salmonella infections, staphylococcal food poisoning and other infections which may be spread by food. We realise that the question of compensation of an employee for loss of earnings will need to be dealt with.

Scotland

69. We have been informed that the consolidation of food laws in Scotland, of the kind effected for England and Wales by the Food and Drugs Act, 1938, was interrupted by the War. We recommend that when this consolidation is undertaken, powers similar to those of sections 13, 15, 16 and 77 of the Food and Drugs Act should be acquired, taking into account the comments and recommendations set out in paragraphs 62 to 66 above.

70. We also recommend that consideration should be given to the desirability of applying section 17 of the Food and Drugs Act (see paragraph 12) to Scotland, or of adding "food poisoning" to the list of notifiable diseases in regulation 5 of the Public Health (Infectious Diseases) Regulations (Scotland), 1932, and to the Ninth Schedule of those regulations.

PREVENTION OF THE TRANSMISSION OF INFECTION FROM HUMAN CARRIERS

71. We do not advocate a system of medical examination of catering staffs, either on engagement only or periodically. A medical examination without detailed and repeated bacteriological investigations gives no protection, but merely a false feeling of security. Any system of reliable medical and bacteriological examinations is impracticable and if it were possible would be very expensive. We have therefore suggested the procedure in item 2 of the Standard Code which includes a list of conditions which should be reported to the employer or manager if individual members of the staff are affected by one or other of them. We have given considerable attention to the selection of these conditions and appreciate that they are not fully comprehensive, and that not infrequently infections are spread by other conditions. Examples are cases of mild sore throat, nasal discharge and symptomless infection with one of the enteric diseases. We decided that it was impracticable to legislate for such conditions as most reported cases would be of a harmless nature and a decision as to whether they were dangerous could only be reached by special examinations by a bacteriologist. We therefore limited ourselves to including conditions which are readily recognised by the sufferer and which should bar the sufferer from contact with food preparation until they have been investigated.

72. We understand that, with present knowledge of the subject, complete protection from a carrier is not possible but we consider that a large measure of safety can be attained by the practice of high standards of personal hygiene by the staff, the provision of facilities in the catering establishment to make personal hygiene easy and simple, and a system of reporting by the staff to the employer of bodily conditions which may be infective. The co-operation of employers and staff in this matter is of the greatest importance. The fact that some infections may be missed does not materially weaken the value of our proposals.

Recognition of Chronic Carriers of Enteric and Food Poisoning Organisms

73. There is one source of danger among persons working in catering establishments which it is not practicable entirely to obviate and that is the person who excretes enteric (typhoid and paratyphoid) or dysenteric organisms. Something however, we think, can be done by careful assessment of known cases before discharge from isolation hospitals, and we are glad to note that the Ministry of Health and Department of Health for Scotland have already made recommendations to this end.* We hope that these recommendations

* Monthly Bulletin of the Ministry of Health, November, 1945, vol. 4, page 224. Letter dated 24th January, 1945 (reference I.D.303541) from the Chief Medical Officer, Department of Health for Scotland, to Medical Officers of Health in Scotland.

are followed by all those with whom lies the responsibility for ensuring that patients are discharged not only clinically well but in a non-infective state. In fact, we consider that the proper assessment of infectivity of known cases, on and after discharge, might prove the most effective measure yet devised for the control of excretors.

74. We suggest that the assessment of the actual or potential excretor should be adopted as routine practice by all hospital authorities and that they should be urged to forward such assessment to the Medical Officer of Health of the district in which the patient lives. In this way advice can be given on the necessity, on the part of certain persons, to avoid employment in the catering industry. If a Medical Officer of Health thinks it necessary in order to prevent the spread of infection, he should take statutory action under the Public Health (Infectious Diseases) Regulations—England and Wales, 1927; Scotland, 1932—if the worker is a carrier.

75. The existing powers do not go so far as we should like, in that they do not cover the food handler who is an excretor of the organisms which cause food poisoning, other than enteric or dysenteric. Fortunately the excretion of these organisms is usually transient. It would however be of considerable help to the Medical Officer of Health in his efforts to limit the spread of infective disease if he were to have powers to deal with carriers of food poisoning organisms similar to those which he already has in dealing with carriers of enteric or dysenteric organisms. We have therefore included in our recommendations one which advises that the scope of the Infectious Diseases Regulations be extended to cover excretors (or carriers) of food poisoning organisms equally with excretors (or carriers) of enteric or dysenteric organisms. (Paragraphs 68 and 73.)

76. The preceding measures and recommendations will do nothing to prevent specific contamination of food by excretors who have never suffered from a clinically diagnosed illness. That danger, which we recognise to be an important one, can be countered only by conscientious application of general hygienic measures.

77. We are aware that the steps outlined would not detect every chronic carrier of enteric infection because of the considerable numbers of unrecognised cases, of infected persons without definite symptoms, and of inherent technical difficulties. Nevertheless the proportion ascertained is likely to be so high that there should be a very material reduction in the number of unrecognised chronic carriers of these diseases in the country, with a corresponding lessening of the risk of their being responsible for extensive outbreaks of disease. The 1946 outbreak of typhoid fever from ice cream in Aberystwyth is a typical example, for this was due to a man who suffered in 1938 from typhoid fever and became a chronic carrier.

78. We are of the opinion that this indirect approach to the problem is a practical and feasible method by which the risk of chronic carriers of these diseases serving in catering establishments can be reduced.

CONTROL OF FOOD BEFORE IT REACHES CATERING ESTABLISHMENTS

79. We are not directly concerned with the steps necessary to ensure that the food reaching catering establishments is supplied in such a state and under such conditions as to reduce as far as possible the liability to spread disease. Experience suggests that neglect of sound hygiene in connection with the preparation of certain types of food may be an important cause of

food poisoning. The most important of these foods are the made-up meat products which are subject to much hand manipulation during preparation and eaten without further cooking. Foods requiring no additional cooking are likely to be sold at snack bars and other catering places and we consider that the places where such foods are prepared require special control and the application of safety measures along the lines of some of the requirements in our Standard Code.

SUPERVISION OF CATERING ESTABLISHMENTS BY LOCAL AUTHORITIES

80. At the present time the duty of supervision of catering establishments by local authorities in England and Wales is provided by certain requirements set out in the Food and Drugs Act, 1938, and by a general duty in section 65 (2) which says:—"It shall be the duty of every local authority within their district to carry into execution and enforce the provisions of any section of this Act with respect to which the duty is not expressly, or by necessary implication, imposed on some other authority". Under our proposals all catering establishments will register with the appropriate local authority and this will emphasise that it is the duty of the local authority to ascertain that they comply with all legal requirements. We do not, however, overlook the fact that co-operative effort is traditional in local government administration and we feel sure that any clarification or tightening of the law to which this Report may give rise will lead to greater co-operation between local authority officers and the managements of commercial and other catering undertakings.

UNIFORMITY OF INSPECTION AND SUPERVISION

81. Not only are the types of catering places diverse but their number varies enormously in different districts. Complete uniformity of administration cannot be expected but we regard it as important that there should be a reasonable uniformity as to requirements and particularly a discrimination between essentials and matters of less importance. The Standard and Target Codes should be useful guides to this end. Local authorities should encourage their officers engaged in this work to attend courses specially designed for them.

THE PLACE OF LABORATORY EXAMINATIONS

82. In our view inspection by efficient inspectors is adequate for supervision and control and the help of the laboratory should be reserved for the elucidation of special problems. Laboratory examinations are an essential part of the investigation of actual or suspected outbreaks of food poisoning or enteric diseases, but we do not suggest their employment as part of, or in replacement of, routine inspections. Their place in relation to utensil washing efficiency is mentioned in paragraph 98. The efficiency of the sterilization of large containers, as used for school meals, can be usefully checked by appropriate laboratory examinations.

ADDITIONAL PROBLEMS WHICH INFLUENCE HYGIENIC CATERING

Handicaps affecting the Catering Industry

83. Representatives of the catering industry in evidence drew our attention to certain difficulties which militate against the maintenance of a high standard of hygienic efficiency. In many respects they were not peculiar to the catering industry but we feel that it is proper to mention the following matters. (Paragraphs 84 to 86.)

84. We understand that satisfying the requirements of local authorities respecting alterations and extensions of working premises is liable to be hindered by the necessity of prolonged discussion with some other department of the same local authority or with the appropriate Town and Country Planning authority.

85. We are informed that heavy development charges, or the fear of them, in respect of alterations and extensions of premises, particularly where there is a change under the Town and Country Planning (Use Classes) Order, 1948, constitute a serious obstacle to improvements in catering hygiene.

86. We are also informed in evidence that the high cost, due in part to purchase tax, difficulty of supply and, in some cases, the poor quality and design of catering equipment makes conformity to satisfactory hygiene standards difficult. These factors operate in regard to crockery and other eating utensils as well as to large pieces of equipment.

87. We invited opinions on the use of utensils made of plastic materials in the place of crockery. Opinions varied as to their utility, but favourable opinions were expressed on the newer types. Provided they are of a quality which can withstand temperatures as high as 170° F. without detriment we consider there is no objection on health grounds to their use.

The Correct Use of Detergents

88. This constitutes an important practical problem and we devoted considerable time to its study. We had the advantage of a valuable report from a committee on detergents under the chairmanship of Dr. H. Davis, B.Sc., Ph.D., F.R.I.C., Chief Pharmacist, Ministry of Health. The essential parts of this report are included in Appendix III.

89. We make the following comments and recommendations upon the use of detergents in catering establishments.

- (1) Detergents play an essential part in the efficient cleansing of food utensils. If they are to be effective it is necessary—
 - (a) to use them correctly, i.e., to ensure that the agents used are suitable and are employed in proper concentrations ;
 - (b) to maintain an effective concentration of detergent, especially where usage is continued over many hours, for example, with dish washing machines in busy restaurants ;
 - (c) to use a detergent which will not leave a film on glassware, etc., thus obviating cloth drying ;
 - (d) to regard detergents as aids to cleansing and not as substitutes for final treatment by heat or chemical bactericide. Detergents with bactericidal properties should be relied upon for sterilization only in the exceptional instances mentioned elsewhere in our Report.
- (2) Detergents which in the concentrations used have an irritant action on the skin, or which may have a harmful effect on the health of the worker, should not be used. Precise information is lacking on these points and investigations are desirable.
- (3) We are concerned at the existing lack of standards to estimate the efficiency of detergents and at the large number of preparations sold under proprietary names with no indication of their composition or of the percentages of active constituent. No impartial examination is made to test the claims of manufacturers as to the value of their products.

(4) The managements of catering establishments have no body of information available to guide them as to the detergents best suited for their work. It is apparent that there is much haphazard use of detergents.

90. For the reasons mentioned in paragraph 89 we recommend that the Government either utilises a suitable existing body or sets up a new standing committee—

- (a) to devise standard methods for estimating the efficiency of detergents under different conditions of utensil cleansing;
- (b) to consider possible irritant action on the hands from detergents and to prescribe limits of alkalinity or other active component;
- (c) to consider other possible toxic effects from detergents;
- (d) to advise the appropriate Departments on the desirability of restricting the use of proprietary detergents in catering establishments to those which comply with specified tests of efficiency and safety under practical working conditions.

91. We also recommend that manufacturers of compound detergents should be required—

- (a) to specify the quantitative composition of the preparations as simply as possible;
- (b) to give definite instructions on the necessary dilutions for effective detergent action under different conditions.

92. All alkaline or soap-containing detergents used for utensil washing should contain suitable amounts of sequestering ingredients if the water used exceeds 7 degrees of hardness. Synthetic organic detergents are stable at all reasonable ranges of hardness and, therefore, when compounded with alkali require no sequestering agent.

93. Silicates are desirable ingredients of alkaline preparations, and should in any case be added if contact with aluminium or other metals is involved. If incorporated there should be a minimum concentration of the equivalent of 0.03 per cent. SiO_2 in the solution.

Mechanical Methods of Utensil Cleansing

94. Mechanical methods of utensil cleansing have become more common and the subject was studied by a committee of the Working Party. Our concern is to ensure that utensils are efficiently cleansed and this can be achieved either by hand or by mechanical methods. The employment of mechanical methods is governed by the extent of the business, by the cost of installing and operating the machines and by their suitability and efficiency.

95. If machines are used they should be both efficient and efficiently operated. They should be so constructed as to be simple to use and easy to clean. They must be capable of cleansing the utensils—whether by jets of water, by water agitation or by revolving brushes—so that all food particles are removed and the utensils are left visibly clean. Finally, they must sterilize the cleaned utensils.

96. The essential requirements for effective washing of utensils by machine are:—

- (a) loose food debris should be removed before the utensils are placed in the machine;
- (b) the utensils should be so placed in the racks (if racks are used) as to allow every piece to be fully exposed in the cleansing and sterilizing processes;

- (c) the water in the cleansing chamber should be maintained at a suitable temperature (say, at about 120° F);
- (d) the detergent used in the cleansing process should be suitable for the work required, added to the water in the correct proportion, and so maintained;
- (e) food and other debris carried into the cleansing chamber should be readily removable so as to prevent interference with the effectiveness of the cleansing process;
- (f) the water in the sterilizing chamber should be maintained at a temperature of 170° F. or higher. It is essential both that an adequate supply of hot water shall be available and that some form of thermometer to indicate the temperature is suitably sited in a position visible to the operator as part of the apparatus. The minimum temperature of 170° F. might with advantage be conspicuously marked on the thermometer;
- (g) the whole operation should be carried out methodically and in accordance with a fixed routine, sufficient time being allowed for each stage to be fully effective;
- (h) if stage (f) is efficiently carried out, all crockery and most utensils should air dry and the need for cloth drying should be largely eliminated;
- (i) finally each article should be examined to see that no material is adhering to it. Any articles which have resisted the cleansing process should be cleaned by hand and passed through the machine again.

97. We are impressed with the need for definite instructions to operatives on the use of the machines and with the need of supervision by the management. The makers invariably issue instructions dealing with the maintenance of the machines as pieces of mechanism but written instructions as to correct operation are given infrequently. When installing the machines it is usual for the makers to explain how they should be operated but this is not enough and clear printed instructions with stress on efficient working should be available to the operators.

98. We do not advocate any form of bacterial or other laboratory control of dish washing as part of routine inspection work. On the other hand it is desirable that laboratory tests should be made to study the efficiency of the different types of dish washing machines on the market, the samples being collected under practical working conditions. Such investigations should assist in the elimination of unsuitable types of machine and in removal of defects in types otherwise satisfactory.

99. The attention of local authorities responsible for the supervision of catering establishments should be drawn to the requirements for mechanical dish washers and to the need for supervision of their hygienic performance.

THE GRADING OF CATERING ESTABLISHMENTS ON HYGIENIC STANDARDS

100. Consideration has been given to the system of grading of catering establishments on their hygienic standards as recommended by the United States Public Health Service for adoption by Health Authorities. Under this system every catering establishment is graded as A, B or C, according to its degree of compliance with the items of a code. A standard notice showing the grade attained has to be prominently displayed in the establishment. The grade can be re-assessed in either direction at any time.

101. This method of control has certain advantages but also has some serious disadvantages and we do not consider it suitable for adoption in this country. The disadvantages include inevitable anomalies arising from the differing standards of inspection and a tendency to stress structural defects more than faulty methods, although this tendency may be partly offset by higher marks for method compared with those given for structural requirements. Performance may vary greatly from day to day and even be poor and unsafe in spite of a high grading.

THE PLACE OF EDUCATION AND VOLUNTARY WORK IN IMPROVING HYGIENIC CONDITIONS WITHIN THE CATERING INDUSTRY

102. The achievement of satisfactory hygienic conditions in all branches of catering involves two different factors. On the one hand the physical conditions existing in the catering establishment must be such as to facilitate the preparation, care and distribution of food on right lines. Measures to this end have already been discussed but good accommodation and equipment alone cannot ensure safety although they markedly facilitate it. The second factor is the practice of personal hygiene and a full appreciation of the danger of contaminated food. Many of the risks of food infection which are run today are due to technical ignorance and an absence of knowledge of the relative importance of various hygienic practices. The necessary instruction should feature in the technical education of managers and employees of catering establishments.

Education for the Catering Industry

103. We have been informed of the recent incorporation of the Hotel and Catering Institute which, we understand, will develop the educational work begun by the National Council for Hotel and Catering Education. It is clear that the importance of education within the catering industry is being increasingly recognised and we recommend that syllabuses of courses of instruction and of examinations in all branches of catering should include adequate and recurring provision for the all important subjects of personal hygiene and food hygiene. In making this recommendation we recognise that the practical instruction of students is conducted in such a way as to display the hygienic aspect, but we consider that the Education Departments, the Hotel and Catering Institute and the City and Guilds of London Institute should give the most careful consideration to the possibility of giving it prominence throughout the course.

104. The facilities for educational work in connection with catering are normally provided or aided by local education authorities with the assistance and advice of the industry. Many local authority health committees are also helping with education in food hygiene. In this they are assisted by the Central Council for Health Education and the Scottish Council for Health Education. These Councils have provided leaflets and posters, refresher courses for sanitary inspectors and lecture/demonstration courses for managements and staffs. The Central Council for Health Education has produced film strips on the infections spread through food and drink, and has provided local authorities (on free loan) with portable stands (and an illustrative talk) and with an exhibition prepared in conjunction with the Public Health Laboratory Service. The Council assists local authorities in planning health exhibitions, and has drafted a campaign plan for authorities wishing to carry out educational work on these problems. The activities of the Central Council for Health Education and the Scottish Council for Health Education, bearing as they do upon the dangers of food and drink

infections, are a valuable contribution to the creation of a better appreciation of the need for the greatest care in the handling of food.

105. Some of our members were associated with the clean food campaigns of the British Tourist and Holidays Board (an unincorporated, non-governmental organisation set up early in 1947 to "foster and develop the Tourist, Catering and Holiday services", and financed under a Board of Trade vote—now merged with the British Travel and Holidays Association). The Catering Division was concerned with all questions of catering, including those related to standards of hygiene, education, etc. During both 1948 and 1949, the Catering Division, in liaison with Ministries and interested bodies, distributed posters and aluminium plaques, carrying striking messages on the necessity of hygienic conditions and practices, to the great majority (184,000) of catering establishments. Judged by appreciations from local authorities and from caterers, this work has had considerable success and has been a material influence in improving standards of hygiene in the catering industry.

106. The Standard Code is designed to reduce food infections and only includes requirements deemed necessary to achieve that object. A material part of it is taken up with methods and we suggest that the British Travel and Holidays Association should promote the unqualified acceptance of this Code (where it applies) by the catering industry explaining both why each item is included as a safety requirement and why none can be neglected without risk. This would follow on naturally from the work already done.

107. **Provision of an Information Centre.** We are of the opinion that an information centre should now be set up by or on behalf of the catering industry, and therefore carrying its confidence, to advise individual caterers as to suitable educational facilities and to guide them to an appreciation of both the principles and the practices of hygienic catering. We suggest that the functions of such a centre should be defined as follows :—

- (a) to provide information for caterers on lay-out, equipment and specifications of premises satisfying hygienic requirements ;
- (b) to advise caterers on problems and methods of hygienic catering ;
- (c) to co-operate with any local authority on methods and procedures to improve hygienic practices in catering establishments ;
- (d) to promote and assist educational activities directed towards hygienic catering.

Education of the Public

108. The technical training of the management and staff of catering establishments is, however, only one aspect of the educational work required. War-time restrictions, many of which continue, compelled the public to accept a lower standard than before, but the customer is now beginning to expect substantial improvement. We are of the opinion that no large scale and lasting improvement in the hygienic conditions in catering establishments can be brought about unless informed public opinion demands it. We would stress the word "informed" because many people, while appreciating generally the value of cleanliness, have little knowledge of the real risks attendant on particular faulty practices. The dissemination of knowledge of the principles underlying food hygiene should, therefore, be carried out by all practicable means. Much is already being done by the Central Government to encourage local authorities and voluntary bodies in their health education work and to provide them with suitable publicity material. The Government Departments concerned, have themselves organised or have assisted others to organise hygiene exhibitions, and have produced display sets, booklets, and films. Material for talks and articles on food hygiene is made readily available to the B.B.C. and the Press, and in particular

to the women's magazines which, with this encouragement, are doing excellent educative work. The Central Council for Health Education and the Scottish Council for Health Education have also produced for public display or distribution a number of posters and leaflets dealing with different aspects of this problem. By these various means useful advice is continuously brought to the attention of the public. We consider that these activities should, as far as possible, be still further developed.

109. Hygienic habits are most effective and lasting when acquired in childhood and their acquisition should be an integral part of the education of every child. This is appreciated both by the Health Departments in the publicity addressed to the mothers of young children, and by the Education Departments whose handbooks include references to eating habits, personal cleanliness and the like. It is intended that the opportunities provided by school meals should be used to inculcate correct habits but practical difficulties set a limit to what can be done. Cooking lessons are utilised to teach the hygienic care and handling of food. We emphasise the importance of this educational work in schools for the formation of sound hygienic habits, such as the instinctive washing of hands after using the sanitary convenience and the correct preparation, storage and care of food.

Local Authorities and their Officers

110. Improvement in hygienic conditions in backward catering establishments must ultimately largely depend upon the interest and activities of local authorities. We fully appreciate the valuable work done by many local authorities in recent times in food hygiene and there is evidence that their interest in it is extending. An increasing number of local authorities has been trying to improve the standard of hygiene by arranging Food Hygiene exhibitions, courses of lectures, film displays and personal discussions between their officers and the managements and staffs concerned. These efforts have undoubtedly led to a wider appreciation of essential hygiene requirements in the catering industry and to increased co-operation between local authorities and caterers.

111. The practice of hygienic methods in catering is so important that local authorities and their officers should keep it prominently in mind. The enforcement of structural and equipment requirements does not stand alone and equal attention should be directed to the actual methods of working. Officers of local authorities entrusted with the supervision of catering establishments should share in any educational activities and participate in talks to employees.

112. One special development has been along the lines of setting up Food Traders' Clean Food Guilds. The first essay on these lines was at Guildford and this has been followed in a number of other places. This Guild and others on similar lines are interesting experiments and cover a wide field. In some instances they have been working successfully for several years and have definitely improved both the standard of education in practical hygiene and the structural conditions of catering premises. The amount of work involved by all concerned is extensive but much appreciated. They have been in operation for too short a time for us to express an opinion on their ultimate value and, in particular, whether the granting of certificates of efficiency is an essential pre-requisite to success. In paragraphs 100 and 101 we have commented upon the grading of catering establishments.

113. We wish to record our appreciation of the services of Mr. L. W. Keen as secretary to the Working Party. His efficiency, courtesy and devotion to the work have been admirable and of great help to the Working Party. Our thanks are also due to Mr. A. F. Ebert, M.B.E., for his efficient and careful work as our minutes secretary.

Part III. Main Recommendations

1. All catering establishments should be required to register with the appropriate local authority. (Paragraph 37.)
2. So far as is legally practicable provision should be made to enforce the Standard Code. (Paragraphs 41 and 44.)
3. The Code for catering establishments of the mobile van and coffee stall type should be made legally enforceable. (Paragraph 47.)
4. The Target Code should be regarded as an objective and all catering establishments should aim at complying with its requirements. (Paragraph 49.)
5. Provisions similar to those in section 13 of the Food and Drugs Act, 1938, and to those recommended in this Report for catering establishments ashore should be applied, so far as practicable, to passenger carrying vessels. (Paragraph 63.)
6. Section 13 of the Food and Drugs Act, 1938 should be extended to apply its provisions to catering establishments where meals are supplied free or where meals are supplied but where, owing to some legal technicality, supply does not involve sale. (Paragraph 63.)
7. The law should be amended so as to require the provision of adequate lighting in places where food is prepared for sale. (Paragraph 64.)
8. At some appropriate time paragraph (i) of section 13 (1) of the Food and Drugs Act, 1938 should be amended so as to remove any ambiguity in its interpretation in regard to the provision of hot and cold water for all purposes. (Paragraph 65.)
9. So far as is constitutionally practicable, the same legal requirements, including registration, should be enforceable in respect of all catering establishments by whatever body they have been provided or are operated, and, where this is not constitutionally practicable, the standards of hygiene practised should not be lower than those enforceable in the case of other catering establishments. (Paragraph 67.)
10. Consideration should be given to the desirability of amending the Public Health (Infectious Diseases) Regulations, 1927, and the Infectious Diseases (London) Regulations, 1927, by extending their scope, so far as is practicable, and taking account of the problem of compensation, so that the provisions relating to enteric diseases (typhoid fever, paratyphoid fever and dysentery) become applicable to salmonella infections, staphylococcal food poisoning, and other infections which may be spread by food. (Paragraph 68.)
11. When the consolidation of the food laws of Scotland is undertaken, powers similar to those of sections 13, 15, 16 and 77 of the Food and Drugs Act, 1938 should be acquired. (Paragraph 69.)
12. Consideration should be given to the desirability of applying section 17 of the Food and Drugs Act, 1938 to Scotland, or of adding "food poisoning" to the list of notifiable diseases in regulation 5 of the Public Health (Infectious Diseases) Regulations (Scotland), 1932, and to the Ninth Schedule of the regulations. (Paragraph 70.)
13. Provision should be made to adopt and extend a system for the assessment of actual and potential excretors of enteric infections along the lines set out in paragraphs 73 and 74.

14. The Government should either utilise a suitable existing body or should set up a new standing committee—

- (a) to devise standard methods for estimating the efficiency of detergents under different conditions of utensil cleansing ;
- (b) to consider possible irritant action on the hands from detergents and to prescribe limits of alkalinity or other active component ;
- (c) to consider other possible toxic effects from detergents ;
- (d) to advise the appropriate Departments as to the desirability of restricting the use of proprietary detergents in catering establishments to those which comply with specified efficiency tests under practical working conditions. (Paragraph 90.)

15. Manufacturers of compound detergents should be required—

- (a) to specify the quantitative composition of the preparation as simply as possible ;
- (b) to give definite instructions on the necessary dilutions for effective detergent action under different conditions. (Paragraph 91.)

16. The attention of local authorities responsible for the supervision of catering establishments should be drawn to the requirements for mechanical dish washers, and to the need for supervision of their hygienic performance. (Paragraph 99.)

17. The existing training in hygiene of personnel associated with the handling of food in any capacity in connection with catering should be extended and made a prominent and essential part of all courses. (Paragraph 103.)

18. The British Travel and Holidays Association should take steps to promote the unqualified acceptance of the Standard Code (where it applies) by the catering industry. (Paragraph 106.)

19. An information centre should be set up by and on behalf of the catering industry. (Paragraph 107.)

20. Local authorities should continue to take an active part in promoting educational work connected with hygiene in catering. (Paragraphs 110 and 111.)

Signed :

WILLIAM G. SAVAGE (*Chairman*).

W. H. BENNETT.
P. N. R. BUTCHER.
W. C. CROZIER.
S. ERICHSEN.
HAROLD HODKINSON.
ROY HOOD.
J. R. LOWENTHAL.
ALLAN W. RITCHIE.
ANDREW J. SHINNIE.
I. N. SUTHERLAND.

A. ERNEST BURDETT.
HARRY W. CRANE.
N. R. C. DOCKERAY.
BETTY C. HOBBS.
JACK HOLLINGSHEAD.
W. A. LETHEM.
DENIS NASH.
E. VIVIAN ROGERS.
E. L. STURDEE.
ROBERT SUTHERLAND.

L. W. KEEN (*Secretary*).

14th November, 1950.

Appendix I

SOURCES OF EVIDENCE

Association of Municipal Corporations
Urban District Councils Association
Rural District Councils Association
Metropolitan Boroughs' Standing Joint Committee
Society of Medical Officers of Health
Society of Medical Officers of Health (Scottish Branch)
Sanitary Inspectors Association
Sanitary Inspectors' Association of Scotland

Bacteriologists

Prof. R. Cruickshank, M.D., F.R.C.P., D.P.H. (Wright Fleming Institute of Microbiology)
Dr. G. S. Wilson, M.D., F.R.C.P., D.P.H. (Public Health Laboratory Service)

British Federation of Hotel and Boarding-House Associations
British Hotels and Restaurants Association
Caterers Association (in association with the National Association of Master Bakers, Confectioners and Caterers)
Cooked Meats National Trade Association
Milk Bars Association of Great Britain and Ireland Ltd.
National Caterers Federation
National Consultative Council of the Retail Liquor Trade

Women's Organisations

by arrangement with the Women's Organisations' Committee for Economic Information, through seven representatives nominated by:—

British Federation of Business and Professional Women and National Federation of Business and Professional Women's Clubs
National Council of Women of Great Britain
National Federation of Women's Institutes
Scottish Women's Rural Institutes
Women's Co-operative Guild
Women's Group on Public Welfare
Women's Voluntary Services.

Appendix II (Part A)

REGISTRATION OF CATERING ESTABLISHMENTS

The case for inspection of premises before registration is accorded

1. The undersigned members of the Catering Trade Working Party consider that registration of eating places is desirable in order to supplement the other relevant powers of the local authority and to strengthen the public health control which is required in the interests both of the trade as well as of the public. For that purpose, the provision for registration is not complete unless it includes a power to refuse registration and a prohibition of starting a new business until registration has been granted. Registration in this form has been increasingly recognised in legislation as desirable and, in particular, the extension of it in section 14 of the Food and Drugs Act, 1938, to various classes of food premises has, so far as we are aware, proved satisfactory in practice.
2. Under that procedure a person proposing to use premises for certain specified purposes may not so use them until they have been registered by the local authority. The grant of registration is contingent on the local authority being satisfied that the premises satisfy the requirements of section 13 of the Food and Drugs Act and are not otherwise unsuitable for the purpose for which it is proposed to use them. If the local authority decides to refuse registration, the applicant is notified of the reasons for this decision and is given an opportunity to appear before the local authority, with any witnesses whom he desires to call, and to show cause why registration should not be withheld; and, if the refusal is maintained, the applicant has the right of appeal to a court of summary jurisdiction and a further right of appeal to a court of quarter sessions.
3. In short, our view is that premises should be inspected to see that they are satisfactory *before* they are brought into use as a catering establishment.
4. We consider that the public ought not to be exposed to the health risks which may be involved in the use of unsuitable premises for new catering establishments. Although the proposed alternative procedure, whereby registration of a new establishment would be granted automatically, would enable the local authority to cancel the registration if the premises fail to satisfy the requirements of section 13 or are otherwise unsuitable, the caterer would be entitled to continue using unsuitable premises while the formalities of cancellation were being gone through, including the exercise of the caterer's rights of appeal. These formalities might occupy several months. Moreover, the registration of premises in which a new business is conducted would be taken to indicate the approval of the local authority, and the public would be fully entitled to ask why a local authority should be allowed to set the seal of official approval on a catering establishment without first taking steps to ascertain that the premises were suitable.
5. Moreover, there is a possibility that courts would be reluctant to uphold the decision of a local authority to cancel a registration in cases where a caterer had installed equipment at considerable expense in premises which were then found to be unsuitable unless the degree of unsuitability were so great as to make any other course impossible.
6. Furthermore, we consider that inspection before registration would act as a protection against unfair competition to that vast majority of caterers who conscientiously make every effort to ensure that their premises are hygienically satisfactory.

7. Finally, we consider that the system of registration for premises in which ice cream and preserved foods are manufactured or sold, a system which has so recently been laid down by Parliament, should be suitable for premises which do not differ in essential hygienic requirements from those in which ice cream and preserved foods are manufactured or sold. We set out in Part C of this appendix the terms of section 14 of the Food and Drugs Act, 1938, which should apply as minimum terms for the registration of premises. We are aware that in Scotland the ice cream manufacturer or dealer has to be registered as well as his premises: whether this refinement should apply to caterers is a matter which, for our part, can be left to the Scottish authorities concerned.

Signed :

WILLIAM G. SAVAGE.

P. N. R. BUTCHER.
S. ERICHSEN.
HAROLD HODKINSON.
DENIS NASH.
ANDREW J. SHINNIE.
I. N. SUTHERLAND.

N. R. C. DOCKERAY.
BETTY C. HOBBS.
W. A. LETHEM.
ALLAN W. RITCHIE.
E. L. STURDEE.
ROBERT SUTHERLAND.

Appendix II (Part B)

The case for registration "as of right"

1. While we have accepted with some reluctance that registration should be advocated as part of the administrative machinery to improve hygienic conditions in catering, we are of opinion that the legal form it should take should be as follows.

2. We feel that the industry, quite rightly, would object strongly to any form of registration which could introduce additional penalties to those already imposable and would resist to the utmost a practice which would place in the hands of local authority officials the right to prevent a trader from commencing a catering business merely on assumptions from plans that the premises in question could not be hygienically conducted. The trader also must be safeguarded against the possibility that local interests at parochial level should determine whether he might open a business or not. Nothing must be read into this to cast any reflection on the integrity of local government officials.

3. It has been advanced that it is not in the trader's own interest that he should be able to start up in business before the premises, plant and layout have been examined and advised on by a sanitary inspector. In our view the trade would agree that this is a wise procedure, although we must stress that it is more important that the business should be hygienically conducted and that this is only partially dependent upon the layout of the premises; however, it must remain within a person's right of freedom of action and personal liberty that he should be able or not as he wishes to engage in lawful business.

4. Whilst registration would impose on the caterer an additional burden, if it is indeed a measure which will further the earnest desire of the industry to improve hygiene, then we submit that registration in the form of registration "as of right" gives all that local authority administration can require.

5. By registration "as of right" it is meant that there should be registration upon mere notification by a caterer to a local authority of his intention to operate a catering establishment.

6. Under this procedure, before opening premises for use as a catering establishment the prospective occupier would notify the local authority in writing of his intention and the local authority would automatically register the premises and supply the prospective occupier with a copy of the Standard and Target Codes, after which the occupier may use the premises, subject to current Town and Country Planning requirements.

7. If the local authority or its appropriate committee resolves that in the light of the conditions revealed in a report, premises do not comply with legal requirements they have at present ample powers to proceed by taking the normal legal steps and which in fact is what they will have to do with all the existing catering establishments operating on the appointed day. In our opinion the only extra power which might be required, is *at quarter sessions level only*, the right to withdraw registration.

Signed :

W. H. BENNETT.
HARRY W. CRANE.
JACK HOLLINGSHEAD.
J. R. LOWENTHAL.

A. ERNEST BURDETT.
W. C. CROZIER.
ROY HOOD.
E. VIVIAN ROGERS.

Appendix II (Part C)

Section 14 of the Food and Drugs Act, 1938

14.—(1) Subject to the provisions of this section, and of subsection (6) of the last preceding section, no premises shall be used for—

- (a) the sale, or the manufacture for the purpose of sale, of ice-cream, or the storage of ice-cream intended for sale ; or
- (b) the preparation or manufacture of sausages or potted, pressed, pickled or preserved food intended for sale,

unless they are registered under this section for that purpose by the local authority, and a person who uses any premises in contravention of the provisions of this subsection shall be guilty of an offence.

For the purposes of this subsection, the preparation of meat or fish by any process of cooking shall be deemed to be the preservation thereof.

(2) Subject to the following provisions of this section, the local authority shall, on the application of the occupier of, or of a person proposing to occupy, any premises, register those premises for the purposes of this section.

(3) If it appears to the local authority that any premises for the registration of which application has been made under this section, or which are registered under this section, do not satisfy the requirements of the last preceding section, or are otherwise unsuitable for use for the purpose for which they are proposed to be used or are being used, the authority shall serve on the applicant for registration or, as the case may be, on the occupier for the time being of the premises, a notice stating the place and time, not being less than seven days after the date of the service of the notice, at which they propose to take the matter into consideration and informing him that he

may attend before them, with any witnesses whom he desires to call, at the place and time mentioned to show cause why the authority should not, for reasons specified in the notice, refuse the application or, as the case may be, cancel the registration of the premises.

(4) If a person on whom a notice is served under the last preceding subsection fails to show cause to the satisfaction of the local authority, they may refuse the application or, as the case may be, cancel the registration of the premises, and shall forthwith give notice to him of their decision in the matter, and shall, if so required by him within fourteen days of their decision, give to him within forty-eight hours a statement of the grounds on which it was based.

(5) A person aggrieved by the decision of a local authority under this section to refuse to register any premises, or to cancel the registration of any premises, may appeal to a court of summary jurisdiction.

(6) Upon any change in the occupation of premises registered under this section, the incoming occupier shall, if he intends to use them for the purpose for which they are registered, forthwith give notice of the change to the local authority, who shall thereupon make any necessary alteration in their register.

If a person required to give a notice under this subsection fails to do so, he shall be liable to a fine not exceeding five pounds.

(7) This section shall not apply in relation to premises used primarily as a club, hotel, inn or restaurant, and in relation to premises used as a theatre, cinematograph theatre, music hall or concert hall shall have effect as if in paragraph (a) of subsection (1) the words "the sale, or" and the words "or the storage of ice-cream intended for sale" were omitted.

(8) If at the commencement of this Act local Act provisions with respect to the registration of premises used for any of the purposes mentioned in subsection (1) of this section were in force in a district, this section shall not apply to that district until the Minister, on the application of the local authority, declares it to be in force therein.

(9) Where on an application made by a local authority under the last preceding subsection the Minister declares this section to be in force in the district of the authority, then, upon the declaration taking effect, such of the local Act provisions as may be specified in the declaration shall be repealed or, as the case may be, shall be repealed as respects the district of the authority, but any premises which immediately before the repeal of those provisions were registered thereunder for any purpose mentioned in subsection (1) of this section shall be deemed to have been registered under this section for that purpose.

Appendix III

REPORT OF THE ADVISORY COMMITTEE ON DETERGENTS APPOINTED BY THE CHAIRMAN OF THE CATERING TRADE WORKING PARTY

The Advisory Committee was set up under the Chairmanship of Dr. H. Davis in March, 1949. The list of members is set out in sub-appendix A. It operated as an independent advisory body and not as a sub-committee of the Working Party. It worked in two sections, one consisting of manufacturers' representatives and the other of scientists interested in the use of detergents.

The terms of reference of the Committee were "to advise the Chairman of the Catering Trade Working Party on the use of detergents in the catering industry".

The scientific and technical aspects of the Committee's report are as follows.

A. Properties required of Detergent Preparations

An effective dish-washing compound should:—

- (a) remove, and prevent the redeposition of, food residues and other solids;
- (b) wet glass, china and metal surfaces readily and consequently rinse freely;
- (c) not attack material of cooking utensils nor damage decorated crockery;
- (d) if the water is hard, not cause a precipitate or scum;
- (e) not affect the operative's health nor harm the skin (chiefly applies to hand-washing methods).

Both hand and machine dish-washing methods should produce a satisfactory standard of cleanliness. Utensils which have been submitted to a satisfactory washing process should be visibly free from food soils, greasy films and hard water films which may harbour bacteria and protect them from any subsequent treatment by heat or by a chemical bactericide.

B. Dish-Washing Machines

Both sections of the Committee agree that some dish-washing machines do not make the best use of modern surface-active agents and that the design of some machines has been so simplified as to interfere with the efficiency of the process.

The Committee recommends that machines should be designed to use modern surface-active agents effectively and to be operated efficiently by workers normally engaged in dish-washing.

Members of the Committee explained that the proprietor of a small restaurant could change a bad detergent but could not so easily replace an unsatisfactory dish-washing machine, for which the outlay may have been considerable.

The Committee suggests that the Working Party should hear evidence from the machine manufacturers.

C. Detergent Preparations used in Machine Dish-Washing

For machine dish-washing there are two main types of detergent preparations, consisting of either (i) an alkaline base, with silicates, phosphates and other compounds, or (ii) soap or synthetic detergents, with or without alkalis.

The Committee agrees that some present-day machines must use alkaline preparations, since excessive frothing limits the proportion of synthetic organic detergent which may be employed.

The manufacturers' section discussed the relative merits of the specification of minimum chemical content and of the establishment of an official body to investigate manufacturers' claims. An example of a chemical specification is that of the U.S. Navy Department. Mann has recently proposed the establishment in Britain of a scientific authoritative committee to investigate the properties required of detergents.

Three of the members of the section (Messrs. Cairns, Ross Kane and Resuggan) agreed to examine the practicability of a chemical specification; their recommendations were accepted, in a slightly modified form, by a subsequent meeting of the section. The modified report is reproduced in sub-appendix B.

The manufacturers' section accepts the principle of an official body to investigate manufacturers' claims but wishes to point out the practical difficulties to be encountered. One difficulty may be the evolution of an effective performance test by which the body would assess the preparations submitted. The section considers that the official body should be sponsored by a Government Department.

D. Machine Dish-Washing Procedures

The ideal process may be divided into three parts:—

- (a) a pre-rinse with hot water to remove gross contamination. Excessive concentrations of soiling material reduce the effectiveness of the wash solution and cause waste of detergent.
To prevent the coagulation of protein and the hardening of carbohydrate, the temperature of this pre-rinse should not exceed 140°F., and, to assist removal of fats, should not fall below 120°F.;
- (b) treatment with hot water containing a suitable concentration of a detergent preparation. The temperature in this stage should not be lower than 130°F.
In order to ensure a minimum concentration of detergent, the concentration should be automatically maintained;
- (c) an efficient rinse to ensure satisfactory bacteriological standards and quick drying.

In addition to the principles proposed above, the Committee makes the following supplementary observations:—

- (i) after stage (c) of the washing process, wiping with a cloth is undesirable and should not be necessary; the utensils should be stacked in racks until required for use;
- (ii) because of the importance of maintaining times and temperatures, the temperature and duration of the washing process should preferably be automatically and not manually controlled.

E. Hand Dish-Washing—necessary precautions

The advantage of machine over hand dish-washing is that at no stage do the washing and rinsing liquids touch the operatives' hands. Consequently, in machine washing higher temperatures may be used and less account need be taken of any irritant properties of the detergent preparations employed.

In designing hand dish-washing methods, two principles should be observed:—

- (a) the temperature of liquids in contact with operatives' hands should not exceed 120°F;
- (b) the detergent preparations used should not affect the health nor harm the skin. Any performance test for hand dish-washing preparations should include a supplementary test for absence of irritant action on the skin.

F. Detergent Preparations used in Hand Dish-Washing

These are four main types:—

(a) Purely alkaline mixtures

The present considerable use of this type of preparation is likely to be much reduced in the future. The three members of the Committee who prepared a paper on alkaline compounds for machine dish-washing (Messrs. Cairns, Ross Kane and Resuggan) undertook to produce a similar paper (reproduced in sub-appendix C) in respect of hand dish-washing.

(b) Uncompounded synthetic detergents

Before suggesting any conditions of use, the Committee feels that some explanation is necessary of the forms in which this class of detergent is sold. Many types of synthetic organic detergents are at present being produced by a small number of manufacturers; explanation of the chemical structure of some of these types is given in sub-appendix D. These primary manufacturers market their products in some cases as dilutions containing 20-40 per cent. of active constituent (i.e., of one of the chemicals listed in sub-appendix D). Because of the rather wide variation of active constituent in the various marketed products, the Committee considers that the strengths of washing solutions should be calculated on the percentage of active constituent and not of the marketed product.

Since these compounds are often most effective at one particular concentration, the Committee carefully considered the strengths it should recommend.

The Committee finally agreed that the washing solution should be of the order of 0.02 to 0.07 per cent. of "true surface-active agent", on the understanding that manufacturers will issue with their products suitable instructions for use. Manufacturers should also provide a method for its determination.

(c) Compounded synthetic detergent preparations

These are prepared by a considerably larger number of firms than those manufacturing the primary products.

The Ministry of Food, under the Soap Substitutes (Labelling and Prices) Order, 1943 (S.R. & O. 638 of 1943), and now revoked, licensed "products labelled for sale" and laid down standards for the following types of product:—

(i) Products claimed to be suitable for general household use, including the washing of woollens and delicate fabrics.

These should contain not less than 7-8 per cent. of concentrated active detergent (the "true surface-active agent" mentioned in sub-paragraph (b)), and not more than 30 per cent. of strong alkali. The pH value of an 0.2 per cent. solution of such products should not exceed 10.2.

(ii) Products containing not less than 5 per cent. of concentrated active detergent and claimed to be suitable as general household cleansers.

The labels of such products should disclaim use for the washing of fabrics other than linen and cotton goods.

(iii) Products claimed to be suitable for dish washing and scrubbing only. These are considered, provided the active detergent content is not less than 2·5 per cent.

The Committee found difficulty in phrasing a recommendation for this type of preparation since the addition of a surface-active agent may enhance the irritant effect of the other ingredients.

The Committee therefore confines its recommendations to the following:—

“ If a surface-active agent is added to an alkaline mixture, extra care must be taken to ensure that the hands are not affected.”

(iv) *Compounded soap powders*

The Ministry of Food, through the Soap (Licensing of Manufacturers and Rationing) Order, 1949 (S.I. 973 of 1949) specified standards for two types of soap powder:—

No. 1 Specification—for powders containing not less than 28 per cent. and not more than 56 per cent. of anhydrous soap;

No. 2 Specification—for powders containing not less than 6 per cent. and not more than 28 per cent. of anhydrous soap.

The only recommendation the Committee wishes to add to these specifications is that the pH of a washing solution made from a compounded soap powder should not exceed 10·5.

G. Hand Dish-Washing Procedures

Since Sir William Savage had informed the Committee that the Working Party considers that single-tank washing methods should not be used, only two-tank or three-tank methods were discussed.

Before applying either method, food residues should be scraped into waste bins and the utensils preferably rinsed in warm water. This procedure should avoid waste of detergent and undue accumulation of soil in the first tank.

Effective treatment by one or other of these two methods necessitates the following:—

(a) *Two-tank method*

- (1) Wash-solution of suitable detergent at temperature of 110°F.-120°F.
- (2) (i) Immersion for fifteen seconds in clean water maintained at a temperature of 170°F., or an equally effective process of sterilisation by heat, or
- (ii) immersion for an adequate period in a solution of an effective concentration of a suitable bactericidal substance, such as a quaternary ammonium compound or a hypochlorite.

(b) *Three-tank method*

- (1) Wash-solution as in stage (1) of two-tank method.
- (2) Warm water rinse, to prevent carry over of washing liquid to final rinsing stage. This second tank may be replaced by a satisfactory rinsing or spraying device.

(3) (i) Immersion for fifteen seconds in clean water maintained at a temperature of 170°F., or an equally effective process of sterilisation by heat, or
(ii) immersion for an adequate period in a solution of an effective concentration of a suitable bactericidal substance, such as a quaternary ammonium compound or a hypochlorite.

In recommending a solution of a quaternary ammonium compound as one of the alternatives for the final rinse tank, the Committee recognises that the effective concentration of these compounds varies between the different members of the group and will need to be specified in the instructions issued by the manufacturers.

After removal from the final rinse tank, crockery should be allowed to drain and should not be wiped with a cloth. Where a hot water rinse tank is employed, utensils may be allowed to drain in the same containers in which they were immersed in the tank.

H. Use of Sequestering Agents

In "hard" water, alkalis and some detergents, such as soap, form insoluble calcium and magnesium compounds which usually appear on the surface as scum; synthetic organic detergents are effective and free from scum formation at all reasonable ranges of hardness, pH and salinity.* Although the scum is unsightly if allowed to dry on utensils, a more serious objection is the conclusion of several workers that calcium and magnesium films provide a good environment for the survival and growth of bacteria. Substances which will prevent the precipitation of insoluble compounds, such as those of calcium and magnesium, are known as sequestering agents. The agents most commonly used are inorganic compounds such as the alkali polyphosphates.

Certain organic compounds have been shown to be effective, and differ from the inorganic substances in not acting in stoichiometrical (i.e., chemically equivalent) proportions. Although sequestering agents are normally inorganic, the Committee feels that the use of organic compounds in the catering industry may be expanded.

The Committee recommends that sequestering agents be incorporated in dish-washing preparations the use of which in hard water would otherwise lead to scum formation. When alkali polyphosphates are used, washing solutions should contain not less than the equivalent of 0.015 per cent. of P_2O_5 , as polyphosphate.

I. Washing Facilities in Licensed Premises

The Committee briefly discussed the facilities available for washing glasses in the bars of licensed premises. The conditions prevailing are somewhat different from those in other catering establishments, and the problems are to some extent specific. Practically all cleaning is done at the bar counter, a quick turn round of glasses is frequently necessary and all methods are geared up to the "rush hours" such as the period immediately before closing time. Any system of glass washing must be satisfactory at these times, which are not only the most difficult but are also those at which cleaning needs to be most effective. The cleaning which takes place after closing time is probably generally satisfactory; as the public mostly like glasses to look bright and shining they are usually polished, after cleaning and draining, and put on shelves.

* It is not necessary, of course, to employ sequestering agents with this type of detergent.

A number of glass-washing machines are on the market, but they are not very popular, chiefly because they take up so much space and do not work at sufficient speed.

While the adoption of a two-tank or multi-tank washing and rinsing process may be desirable as a future objective, in a great many licensed houses facilities for this procedure at each bar do not exist at present. In many cases it would not be possible to install such a system without major alterations involving so considerable a building programme that it would not be possible under present conditions. It is most desirable that any recommendations made should be workable.

The Committee learnt that a panel of brewing scientists is very actively engaged at the present time, under the aegis of the Institute of Brewing, in investigating the possibility of the automatic addition of a suitable detergent and bactericide to the sink. As a result of a large number of bacteriological and other tests in laboratories and licensed houses, this body expects to be in a position to make positive recommendations. It is expected that a procedure will be possible which can safely be applied to a single-tank system.

The following are the principal properties required of a detergent and germicidal preparation for use in sinks in bars: it must be—

- non-irritant
- odourless
- tasteless
- rapid and bacteriologically non-selective in action
- without deleterious effect on beer head
- free of haze forming properties in the beer
- non-foaming in the sink
- free of causing lingering bubbles in the glass, suggesting soapiness
- free of causing slipperiness on the surface of the glass
- non-corrosive to pewter, etc.

A suitable detergent having been found, some simple automatic dispensing device is desirable to ensure use at the correct concentration.

After washing, the best practice is to leave the glass to drain, as it should now have a very low bacterial count, but this does not appeal to some members of the public, who consider that a dry, highly polished glass is more attractive.

Where a cloth is used it should be clean and should be retained exclusively for glass polishing. Experiments have shown that impregnation of the cloth with a bactericide does not lead to a lower bacterial count on the glass than that obtained with an unimpregnated cloth provided the latter is clean. This is reasonable if glasses are immersed in a germicidal detergent, because the unimpregnated cloth only becomes dampened with the remains of the detergent from the glass. Nevertheless, impregnation of the cloth may be encouraged as an additional precaution, since there is always a possibility that the cloth may sometimes be used for purposes other than glass drying and polishing.

J. Simple Field Tests

Such tests should be capable of being easily performed by inspectors visiting catering establishments. The following simple tests may be employed:—

- (a) Visible freedom of utensils from soiling matters.
- (b) Freedom from film. The application of finely powdered carbon with a camel hair brush will assist detection of film.

- (c) Temperature of wash and rinse solutions. Inspectors should be provided with a pocket thermometer similar to that described in page 32 of Part III of the U.S. Public Health Bulletin No. 280.
- (d) Inspectors should be provided with clean, stoppered bottles for collecting samples of original wash and rinse solutions for laboratory chemical examination. Where the washing process is shown to be inefficient such examination should reveal whether the solution complies with the simple specifications of this report, as laid down in sub-appendices B and C. We have not made any recommendations for assessing the composition of solutions during use, but the Committee feels that the problem is worthy of consideration.
- (e) Bacteriological examination. The Committee feels that some mention should be made of bacteriological tests, whilst realising that these are outside its terms of reference.

The bacteriological examination of washed utensils may be made by a swabbing or a rinse procedure. For performing the swabbing, inspectors should be provided with sterile cotton swabs contained in 20 ml. of sterile Ringer's solution. Rinse tests of certain types of utensil have certain advantages with regard to reproducibility and simplicity. It may be thought desirable to take samples, for bacteriological examination, of the water in which utensils are rinsed. Bacteriological tests and sampling should only be performed by trained workers.

K. Interpretation by restaurant proprietors of the recommendations of this report

Many of this report's recommendations are unavoidably expressed in technical terms which the Committee appreciates may prove confusing to many proprietors of catering establishments, especially those smaller concerns possessing no laboratory facilities of their own.

The Committee realises that the majority of catering establishments are of this type and therefore urges manufacturers of detergent preparations to issue instructions which the layman will readily understand.

L. Summary

The conclusions of this report may be summarised as follows:—

- (1) A satisfactory washing process should render utensils free from food soils, greasy films and hard-water films.
- (2) Dish-washing machines should be designed to use modern surface-active agents effectively and to be operated efficiently and automatically by ordinary workers.
- (3) Some present-day machines must use alkaline preparations, since excessive frothing limits the proportion of synthetic organic detergent which may be employed.
- (4) For alkaline machine dish-washing preparations, certain standards of alkalinity, sequestering power and silicate content may be specified.
- (5) The manufacturers' section accepts the principle of the establishment of an official body to investigate claims made for detergent preparations, but wishes to point out the practical difficulties of the proposal. The Section considers such a body should be sponsored by a Government Department.
- (6) The Committee outlines a procedure for machine dish-washing.

- (7) In manual dish-washing, certain precautions are required additional to those necessary in machine procedures.
- (8) The Committee has considered the extent to which standards could be recommended for the following types of hand dish-washing preparations:—
 - (a) Purely alkaline mixtures.
 - (b) Uncompounded synthetic detergents.*
 - (c) Compounded synthetic detergent preparations.†
 - (d) Compounded soap powders.†
- (9) The Committee outlines procedures for two- and three-tank methods of hand dish-washing.
- (10) Sequestering agents should be incorporated in alkaline dish-washing preparations the use of which in hard water would otherwise lead to scum formation.
- (11) The Committee has briefly discussed the facilities available for washing glasses in the bars of licensed premises and the measures necessary for their improvement.
- (12) Simple procedures are described for determining the efficiency of dish-washing processes.
- (13) In referring to the technical nature of its report, the Committee stresses the importance of manufacturers of detergent preparations issuing instructions which the layman will readily understand.

SUB-APPENDIX A

Advisory Committee on Detergents

*Chairman : H. Davis, B.Sc., Ph.D., F.R.I.C., Ph.C.
(Chief Pharmacist—Ministry of Health)*

Manufacturers' Section :—

E. Barraclough, M.Sc., Ph.D., F.R.I.C.	Monsanto Chemicals, Ltd.
A. C. H. Cairns, B.A., B.Sc., A.R.I.C.	Jos. Crosfield & Sons, Ltd. Industrial Soaps, Ltd.
S. H. Oakeshott, B.A., B.Sc., D.Phil.	I.C.I. Ltd. (Dyestuffs Division).
J. C. L. Resuggan, F.R.I.C.	British Hydrological Corporation.
N. L. Ross Kane, M.A., B.Sc., A.R.I.C.	I.C.I. Ltd. (Alkali Division).
G. S. Shillitoe, B.Sc., A.R.I.C. ...	Irano Products, Ltd.
R. C. Tarring, B.Sc., A.R.C.S. ...	Shell Chemicals, Ltd.

Users' Section :—

H. J. Bunker, M.A.	Food Group, The Society of Chemical Industry.
D. H. F. Clayson, M.Sc., F.R.I.C.	Food Group, The Society of Chemical Industry.
J. G. Davis, D.Sc., Ph.D., F.R.I.C.	Food Group, The Society of Chemical Industry.
Betty C. Hobbs, Ph.D.	Central Public Health Laboratory.
E. Shotten, B.Sc., Ph.C.	School of Pharmacy, University of London.
W. H. Simmons, B.Sc., F.R.I.C.	The Society of Public Analysts.

Secretary : C. L. Sargent, Ph.C. (Ministry of Health).

* In an uncompounded preparation, the detergent is not mixed with other active ingredients.

† In a compounded preparation, the principal component is mixed with ingredients designed to assist its detergent properties.

SUB-APPENDIX B

Standards of Alkaline Detergents for Dish-Washing Machines

Report prepared by Messrs. Cairns, Ross Kane and Resuggan, and accepted, with slight modifications, by Manufacturers' Section.

Unless great care is taken with the formulation of standards for detergents, it is inevitable that development may be restricted and hampered, and it is felt that the most satisfactory method of ensuring suitable detergent standards is for an official body to be set up which will have powers to approve proprietary detergents for dish-washing purposes.

The following standards are suggested for the composition of detergents and are as far as we would be prepared to go at the moment:—

It is recommended that the solution as prepared for machine dish-washing according to the manufacturer's instructions should conform to the following standards:—

1. *Alkalinity*

- (a) The solution should show a pH value of not less than 10.0 and not more than 12.5.*
- (b) When titrated with methyl orange as an indicator the solution should not contain less than the equivalent of 0.10% Na_2O .

2. *Sequestering Power*

When used in hard water the detergent should contain sequestering agents. For example, polyphosphates may be used at a suggested minimum concentration of 0.015% (as P_2O_5) in the solution.

3. *Silicates*

Because of their properties and protective action on metals, the silicates are desirable ingredients; they should, in any case, be present whenever the detergent solution is in contact with certain metals, especially aluminium. If incorporated there should be a minimum concentration of the equivalent of 0.03% SiO_2 in the solution.

*Note:—*A detergent preparation should not affect the operative's health.

SUB-APPENDIX C

Simple alkaline detergents for hand dish-washing

The solution as prepared for hand dish-washing according to the manufacturer's instructions shall conform to the following standards:—

1. *Alkalinity*

- (a) The solution should show a pH value of not less than 10.0 and not more than 11.5.
- (b) When titrated with methyl orange as an indicator the solution should not contain less than the equivalent of 0.10% Na_2O .

2. *Sequestering Power*

When used in hard water the detergent should contain sequestering agents. For example, polyphosphates may be used at a suggested minimum concentration of 0.015% (as P_2O_5) in the solution.

* Certain types of soiling matter, e.g., pickles or sauces, are liable to cause a rapid fall in pH.

3. *Silicates*

Because of their properties and protective action on metals, the silicates are desirable ingredients ; they should, in any case, be present whenever the detergent solution is in contact with certain metals, especially aluminium. If incorporated there should be a minimum concentration of 0.03% SiO_2 in the solution.

Note :—A detergent preparation should not affect the operative's health nor harm the skin. In the absence of medical evidence, the Committee cannot guarantee that the recommended limits of alkalinity will not affect the hands.

SUB-APPENDIX D

Chemical classification of some types of synthetic organic detergents

1. *Polyethylene oxide condensation products*

Essentially condensation products of polyethylene oxide with either fatty alcohols or substituted phenols.

2. *Alkyl sulphates*

(a) *Sulphated fatty alcohols*

Produced by the sulphation of fatty alcohols obtained from sperm oil or from fatty acids or fats by catalytic hydrogenation.

(b) *Sulphated secondary alcohols*

Produced by direct sulphation of olefines, usually obtained from petroleum or shale oil.

3. *Alkyl aryl sulphonates*

Benzene or phenol sulphonates substituted by a long alkyl chain, and produced by the condensation of the aromatic nucleus with a chlorinated paraffin or with a suitable olefine fraction.

4. *Quaternary ammonium compounds* (only certain members of this class may be compounded with alkali).

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into an Inquiry into the Operation
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HYGIENE IN CATERING ESTABLISHMENTS

ERRATUM

Page 46. Appendix III Paragraph J.

For "simple Fuel Tests" read "simple Field Tests".

Ministry of Food.

January, 1951.

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